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THE FLOWERING PLANTS OF SOUTH AFRICA.

A MAGAZINE CONTAINING HAND-COLOURED FIGURES WITH DESCRIPTIONS OF THE
FLOWERING PLANTS INDIGENOUS TO SOUTH AFRICA.

EDITED BY

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VOL. IX.



~~~~~  
The veld which lies so desolate and bare  
Will blossom into cities white and fair,  
And pinnacles will pierce the desert air,  
And sparkle in the sun.

R. C. MACPIE'S "EX UNITATE VIRES."

~~~~~

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TO
CHARLES MAGGS, ESQ.,
OF GREYSTOKE, PRETORIA,

THIS, THE NINTH VOLUME OF THE "FLOWERING
PLANTS OF SOUTH AFRICA" IS DEDICATED, IN
GRATEFUL APPRECIATION OF THE INTEREST
WHICH HE HAS TAKEN IN AND THE VALUABLE
ASSISTANCE HE HAS SPONTANEOUSLY RENDERED
TO BOTANICAL SCIENCE IN SOUTH AFRICA.

DIVISION OF BOTANY, PRETORIA.
October, 1929.



PLATE 321.

COMMELINA AFRICANA.

Cape Province, Orange Free State, Natal, Transvaal.

COMMELINACEAE. Tribe COMMELINEAE.

COMMELINA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 847.

Commelina africana, *Linn. Sp. Pl.* ed. ii. 60; *Fl. Cap.* vol. vii. p. 9.

The plant here figured and described is very probably var. *lancispatha* described in the *Flora Capensis*, and which is distributed through Africa. It differs from the species of *Commelina* figured on Plate 42, not only in the colour of the flower, but in having the spathe simply folded and not an oblique funnel-shaped structure as in the former species. The plant is a scrambler and flourishes in the rockery, where it rapidly spreads and soon becomes covered with canary-coloured flowers. The inflorescence is rather peculiar, consisting of two cymes, one of which is 1-flowered, and usually this flower is mature and falls while the flowers of the other cyme are yet in bud and hidden within the spathe. The latter then appear in succession.

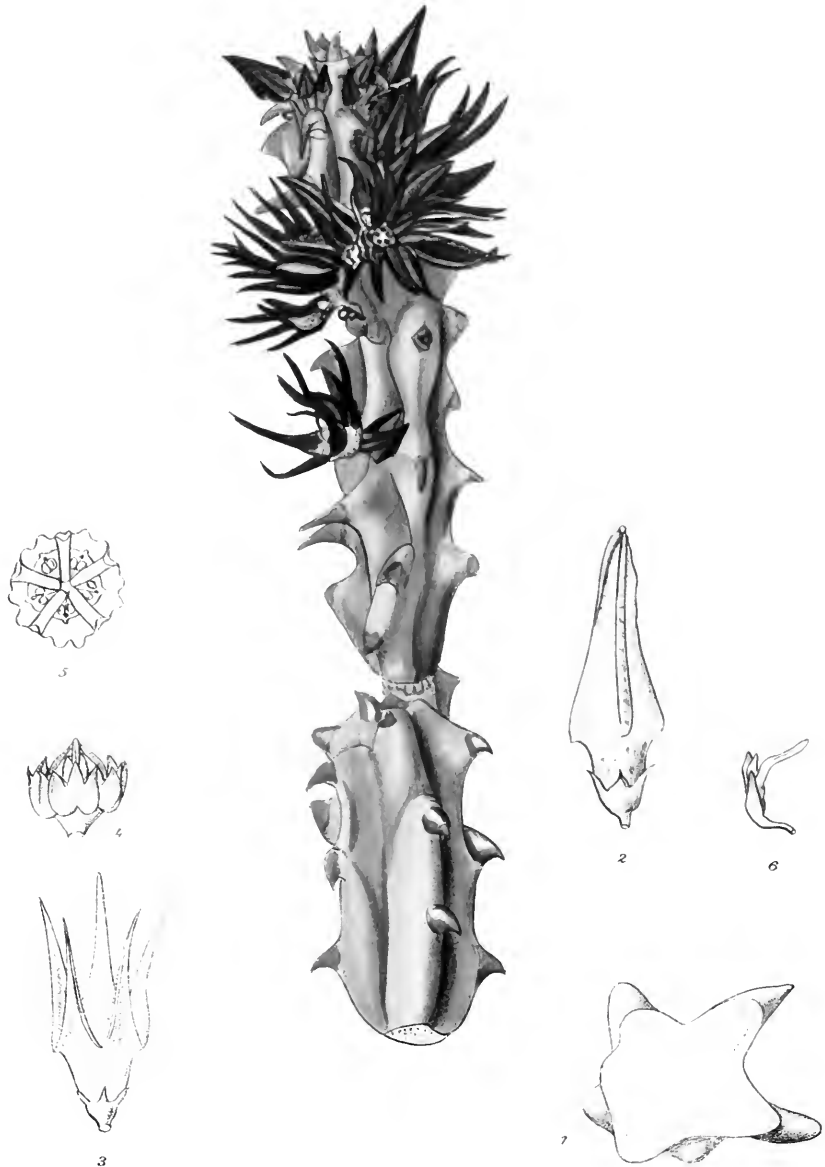
Our description and Plate were prepared from plants flowering in the grounds of the Division of Botany, Horticulture and Entomology in Pretoria, but the plant is found in the wild state in the neighbourhood of Pretoria.

DESCRIPTION :—*Stems* up to 50 cm. long, terete, glabrous; internodes up to 7 cm. long. *Leaves* 5 to 6·5 cm. long; petiole 1 cm. long, clasping the stem; blade up to 5·5 cm. long, 1·5 cm. broad, lanceolate, acute, subcordate at base, glabrous. *Spathe* peduncled, 4·5 cm. long, 2·2 cm. broad, folded, ovate, acuminate, acute; peduncle 1·5 cm. long, terete, glabrous. *Inflorescence* of two cymes, hidden within the spathe. *Sepals* concave, 5 mm. long, 4 mm. broad, oblong, obtuse, ciliate. *Lateral petals* 1·5 cm. long, 6·5 mm. broad, orbicular, long-clawed; glabrous. *Filaments* 1 cm. long, terete, glabrous. *Ovary* ellipsoid; style 1·5 cm. long; stigma simple. *Fruit*

with the dorsal chamber developed and containing a seed.
(National Herbarium, Pretoria, No. 7938.)

PLATE 321.—Fig. 1, spathe with inflorescence; Fig. 2, inflorescence with spathe removed; Figs. 3, 4, stamens; Fig. 5, pistil; Fig. 6, immature fruit; Fig. 7, cross-section of fruit.

F.P.S.A., 1929.



C. Lestry del

CARALLUMA MAMMILLARIS.

Cape Province, Namaqualand.

ASCLEPIADACEAE. Tribe STAPELIEAE.

CARALLUMA, *R. Br.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 782.

Caralluma mammillaris, *N.E. Br. in Hook. Ic. Pl.*, under t. 1902;
Fl. Cap. vol. iv. sect. 1, p. 875.

On Plate 224 we figured a species of *Caralluma* not described in the *Flora Capensis*. The species now figured and described is one of the first known members of the genus, having been described over 150 years ago as *Stapelia mammillaris*. The genus *Caralluma* is represented in South Africa by about 24 species and differs from *Stapelia* in the structure of the corona. Almost without exception the flowers have a most disagreeable odour, more so perhaps than is found in species of *Stapelia*. This particular species is not easy of cultivation, for if the stems are damaged in any way, rot sets in quickly and the plant dies. It has been successfully cultivated in a greenhouse in Pretoria for about three years, but only by careful attention and judicious watering.

Our Plate was prepared from cultivated specimens originally collected by Mr. J. J. van Nouhuys between Loeriesfontein and Platklip in the Calvinia district, where it grows on granite hills.

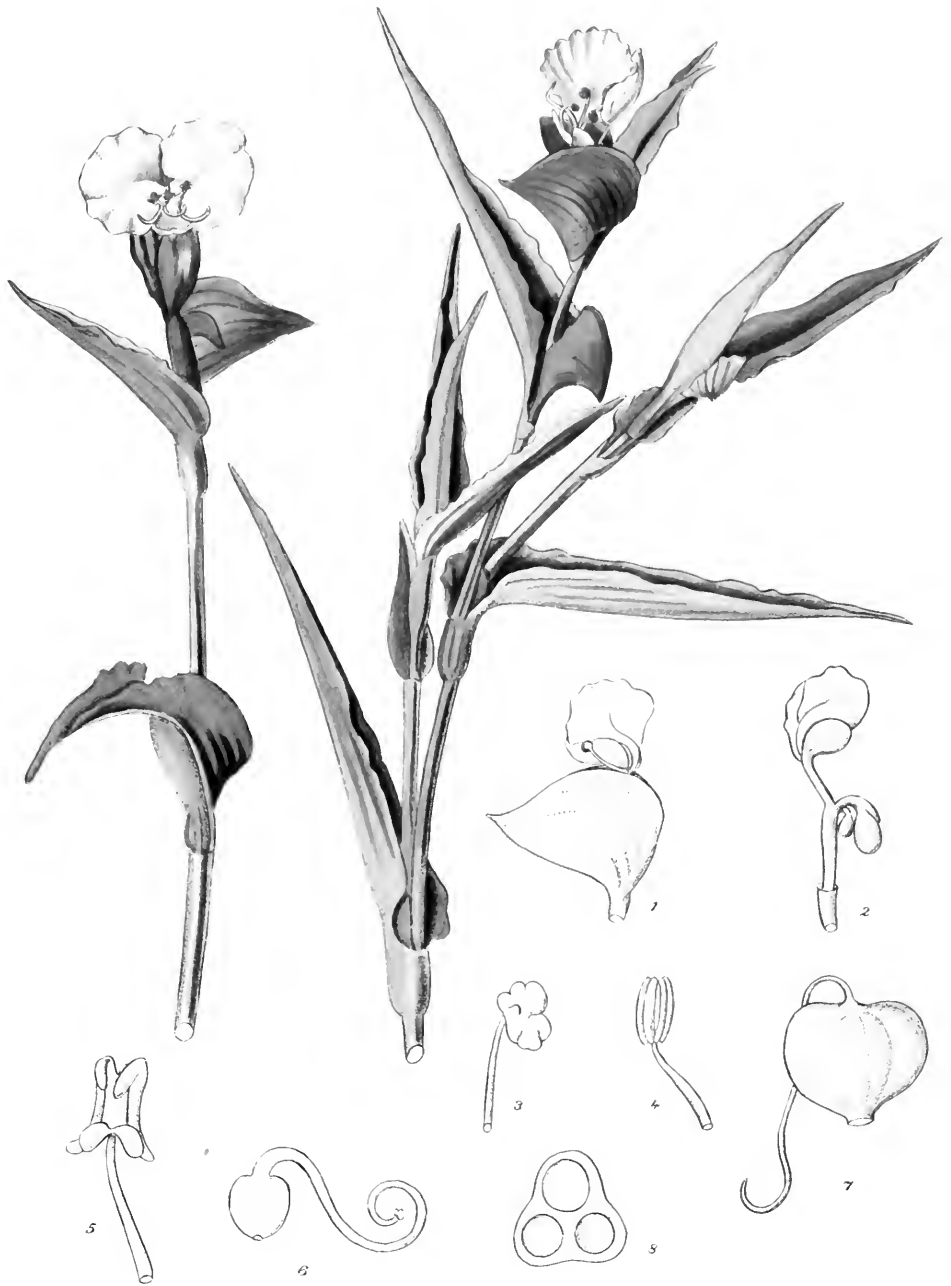
DESCRIPTION:—*Plant* up to 45 cm. high, branched usually from the base; branches 4 to 5 cm. thick (including spines), irregularly 5-6-angled, armed with stout conical spines; spines 1.5 cm. long, acute. *Flowers* in fascicles of 4 to 10 along the grooves between the angles, more rarely flowers solitary. *Pedicels* .5 mm. long. *Sepals* 2 mm. long, triangular in outline. *Corolla* 1.7 cm. long, 2.5 to 3 cm. in diameter when fully expanded; tube 5 mm. long, 6.5 mm. in diameter, campanulate, glabrous; lobes 1.5 cm. long, lanceolate-linear, subacute, dark chocolate-brown, with a few cilia on the

margins near the base, otherwise glabrous. *Outer corona* consisting of five 3-toothed plates 1 mm. long; inner corona linear, 1.5 mm. long, incumbent over the staminal column and adnate to the outer corona at the base. (National Herbarium, Pretoria, No. 7937.)

PLATE 322.—Fig. 1, cross-section of stem; Fig. 2, flower bud; Fig. 3, open flower; Fig. 4, corona; Fig. 5, corona from above; Fig. 6, side-view of an outer and inner corona-lobe.

F.P.S.A., 1929.





COMMELINA ALBESCENS.

Transvaal.

COMMELINACEAE. Tribe COMMELINEAE.

COMMELINA, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 847.*Commelina albescens*, *Hassk. in Schweinf. Beitr. Fl. Aethiop.* 210;
Fl. Cap. vol. vii. p. 11.

This species of *Commelina* has been recorded from the Pretoria, Waterberg and Barberton districts of the Transvaal, but is also distributed throughout Africa, and extends through Arabia and Beloochistan to Sind. It resembles *C. benghalensis*, figured on Plate 42, in having a funnel-shaped spathe, but differs in only having a single ovule in each of the two anterior chambers of the ovary, and from *C. africana* (Plate 321) it differs not only in the colour of the flower, but also in the inflorescence, which consists of a single cyme. During rains the spathe contains a certain amount of water and becomes partly filled by a gelatinous fluid. The flowers also contain a sticky fluid. Mr. E. E. Galpin, F.L.S., reports that the blue variety increases very rapidly in light sandy soils of granite formation in the neighbourhood of Pietpotgieters Rust under cultivation. In seriousness it ranks as a pest second only to *Cynodon dactylon*, and the fleshy roots when turned up by the plough and exposed on the surface of the land continue growing. It is called "Kannil Dood" locally.

Our description and Plate were drawn up from specimens cultivated in the garden of the Botanical Laboratories, Pretoria.

DESCRIPTION:—A trailing plant. *Stems* terete, faintly striate, pubescent. *Leaves* longer than the internodes of the stem, 3·5 to 5·5 cm. long; petiole membranous, forming a sheath round the stem, ribbed, pubescent; blade 2·5 to 4·5 cm. long, 1 to 1·8 cm. broad at the base, ovate-lanceolate, acuminate, acute, pubescent beneath, almost glabrous above. *Spathe* very shortly peduncled, 2 cm. long, 2·5 cm. broad,

membranous, forming an oblique funnel, pubescent. Inflorescence a 2-3-flowered cyme. *Sepals* unequal, 4 to 6 mm. long, 2.5 to 6 mm. broad, concave, orbicular, glabrous. *Petals* unequal; larger 1.1 cm. long, 1 cm. broad, orbicular, shortly clawed; smallest 3 mm. long, oblong-lanceolate. *Stamens* 6, of three different shapes. *Ovary* globose, with a single ovule in each chamber; style terete; stigma simple. (National Herbarium, Pretoria, No. 7940.)

PLATE 323.—Fig. 1, spathe with inflorescence; Fig. 2, inflorescence with spathe removed; Figs. 3, 4, 5, different forms of stamens; Fig. 6, pistil; Fig. 7, fruit; Fig. 8, cross-section of fruit.

F.P.S.A., 1929.

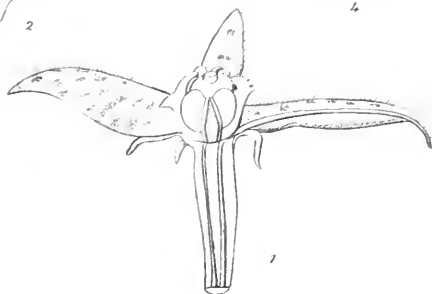
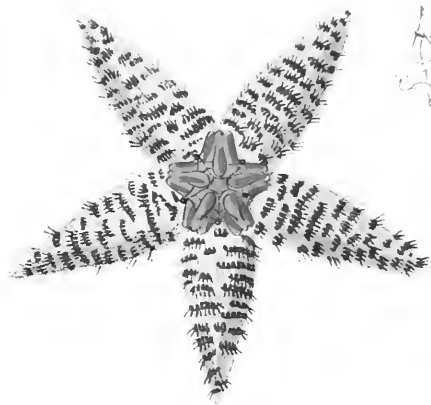


PLATE 324.

PIARANTHUS GEMINATUS.

Cape Province.

ASCLEPIADACEAE. Tribe STAPELIEAE.

PIARANTHUS, *R. Br.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 782
(partly).

Piaranthus geminatus, *N.E. Br. in Journ. Linn. Soc.* xvii. p. 163;
Fl. Cap. vol. iv. sect. 1, p. 1018.

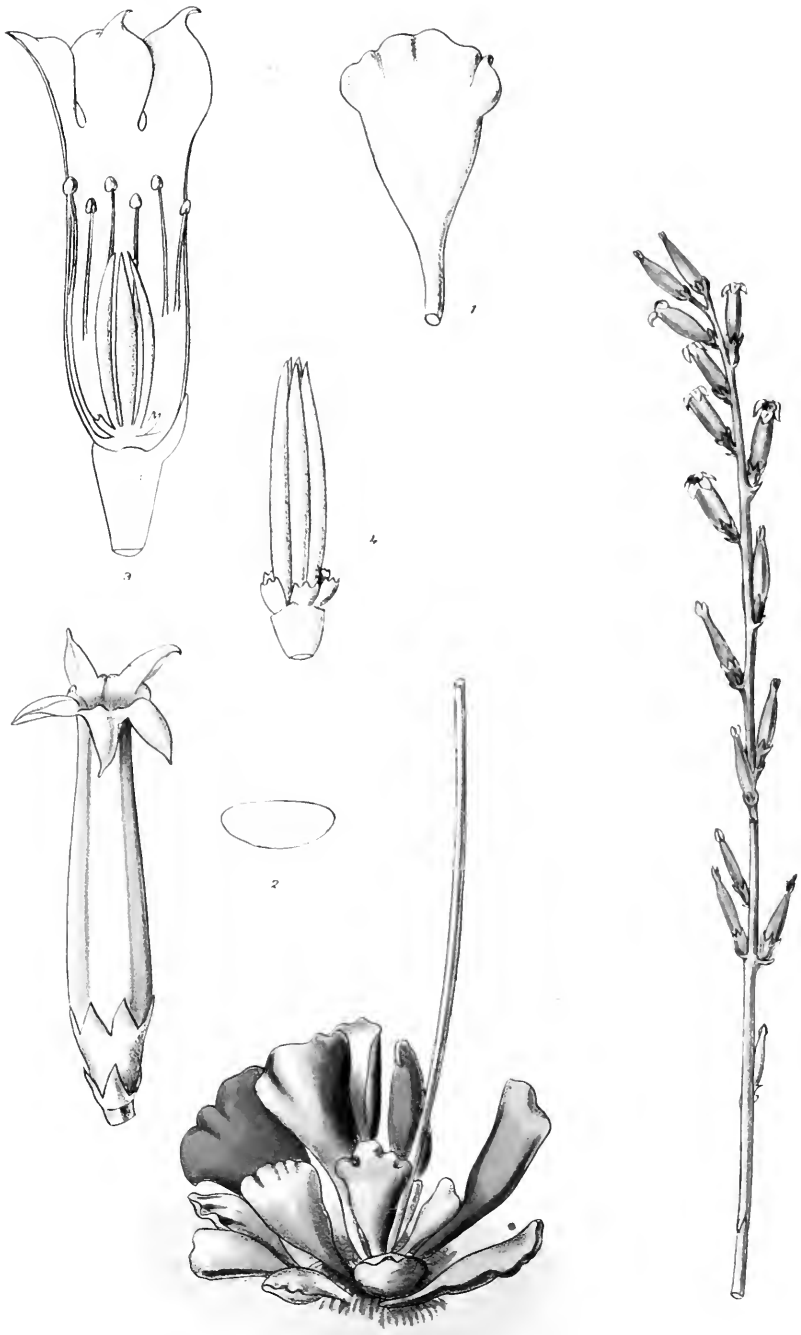
The genus *Piaranthus*, represented in South Africa by 11 species, was founded in 1811 by the great English botanist Robert Brown, and differs from the genera *Stapelia* and *Caralluma* in not having an outer corona. A certain amount of confusion existed in the past regarding the limits of the genus *Piaranthus*, and this is outlined by N. E. Brown in the *Flora Capensis*. Our plant was first figured in the year 1796 by Francis Masson, who spent several years at the Cape as a botanical collector; then it was subsequently figured in 1810 in the *Botanical Magazine* (t. 1326) from specimens cultivated in England. Notwithstanding that the plant is frequently mentioned in the older botanical literature (mostly under the genus *Stapelia*), none of the older collectors except Masson appears to have collected it. Masson had it growing in his garden at the Cape in 1794, and introduced it into cultivation at Kew. It was probably from Masson's specimen which flowered in 1818 at Kew that the description of the species in the *Flora Capensis* was drawn up.

Our Plate was prepared from specimens cultivated in Pretoria and collected by Mr. C. A. Smith, B.Sc., at Klipplaat in the Jansenville district.

DESCRIPTION:—*Stems* procumbent, about 1.5 cm. in diameter, subterete or more or less 4-angled, often with mammillary swellings each tipped with a small white triangular spine. *Flowers* solitary or in pairs; pedicles 8 mm. long. *Calyx-lobes* 3 mm. long, lanceolate, acuminate, acute. *Corolla-*

lobes 7 mm. long, lanceolate, obtuse, greenish on the back, yellowish on the face with maroon-coloured spots, hairy above, glabrous beneath. *Corona* about 1 mm. long, narrowly oblong, incumbent over the backs of the anthers, produced at the base into a horizontal obscurely-toothed crest. (National Herbarium, Pretoria, No. 7939.)

PLATE 324.—Fig. 1, median longitudinal section of flower; Fig. 2, corona, top view; Fig. 3, side view of single corona-lobe; Fig. 4, pollinia. F.P.S.A., 1929.



C.Letty del.

COTYLEDON CRISTATA.

Cape Province.

CRASSULACEAE.

COTYLEDON, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 658.

 Cotyledon cristata, *Haw. in Phil. Mag.* 1827, p. 123; *Fl. Cap.*
 vol. ii. p. 376.

As pointed out under *Cotyledon Schonlandii* on Plate 328, that species and this are closely related; both have the stem covered with rigid curled hairs but differ in the shape of the leaves. The species was first collected at the beginning of last century by Ecklon and Zeyher on the hills near the Zwartkops River in the Uitenhage district. According to Dr. S. Schonland it is common in the neighbourhood of Port Elizabeth and Grahamstown, and is also found at Somerset East and Graaff Reinet. Although Haworth described the species over 100 years ago, it does not appear to have been figured in any botanical publication and it is reproduced here for the first time.

Our Plate was prepared from a plant cultivated and flowered at the Botanical Laboratories at Pretoria, but no details are available as to where it was collected.

DESCRIPTION:—*Stem* covered with long coir-like hairs. *Leaves* in a rosette, 2 to 3·5 cm. long, 1 to 2·5 cm. broad, spatulate, attenuated at the base into a petiole, undulate crenate at the apex, more rarely subentire, pubescent. *Scape* 33 cm. long, terete, with 2 to 3 minute bracts, pubescent below, glabrous above. *Flowers* in spikes. *Bracts* 2·5 mm. long, ovate, acute; bracteoles 1·5 mm. long. *Sepals* 2·5 mm. long, triangular acute. *Corolla-tube* 1·1 cm. long, 3 mm. in diameter, glabrous; lobes 2·5 mm. long, ovate, acute, pubescent on the inner face. *Stamens* 10, attached to the tube of the corolla. *Carpels* 9 mm. long; glands 1 mm. long, almost quadrate. (National Herbarium, Pretoria, No. 7945.)

PLATE 325.—Fig. 1, single leaf; Fig. 2, cross-section through leaf;
Fig. 3, median longitudinal section through flower; Fig. 4, carpels.
F.P.S.A., 1929.



PLATE 326.

COMMELINA ECKLONIANA.

Transvaal, Natal.

COMMELINACEAE. Tribe COMMELINEAE.

COMMELINA, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 847.

Commelina Eckloniana, *Kunth Enum.* iv. p. 57; *Fl. Cap.*
vol. vii. p. 11.

This species of *Commelina*, collected on the road to Wyliespoort in the Zoutpansberg district by Mr. J. J. van Nouhuys, falls into the same subsection of the genus as *C. benghalensis* and *C. africana*, which have been previously figured. The species of this subsection are characterised by having two ovules in each of the anterior ovary chambers, while *C. albescens* (Plate 323) is a representative of the second subsection and has only one ovule in each of the anterior ovary chambers. With the publication of this Plate we have also illustrated a member of each of the divisions into which the first subsection is divided, viz. (a) petals yellow or orange (*C. africana*), (b) petals blue: (i) fruit 5-seeded (*C. benghalensis*), (ii) fruit 4-seeded (*C. Eckloniana*).

Our Plate was prepared from specimens growing in the grounds of the Botanical Laboratories, Pretoria.

DESCRIPTION:—*Stems* trailing, up to 1·2 m. long, terete, glabrous. *Leaves* 5·5 to 14 cm. long, 1·2 to 2 cm. broad, lanceolate, acuminate, acute, pubescent beneath, glabrous above; petiole up to 2·5 cm. long, forming a complete sheath round the stem, membranous, striate, pubescent, with a few long hairs at the mouth. *Spathe* long-peduncled, 1·5 cm. long, 2 cm. broad, forming an oblique funnel, minutely pubescent, enclosing 2 cymes. *Inflorescence* of 2 cymes, one of which is 1-flowered, the other 5-flowered. *Sepals* 3 to 4 mm. long, 1·5 to 3·5 mm. broad, concave, almost orbicular. *Petals* unequal; the 2 larger 1 cm. long, with the limb 8 mm. broad and suborbicular, clawed at the base. *Stamens* of three

different kinds; filaments slender. *Ovary* with 2 ovules in each of the two anterior chambers and 1 ovule in the dorsal chamber; style terete; stigma simple. *Fruit* 2-chambered, with 2 seeds in each chamber (the dorsal chamber aborts), surrounded by the persistent sepals. (National Herbarium, Pretoria, No. 7941.)

PLATE 326.—Fig. 1, spathe enclosing inflorescence; Fig. 2, inflorescence with spathe removed showing the 2 cymes; Fig. 3, calyx; Figs. 4 and 5, stamens; Fig. 6, pistil; Fig. 7, fruit; Fig. 8, cross-section of fruit.

F.P.S.A., 1929.

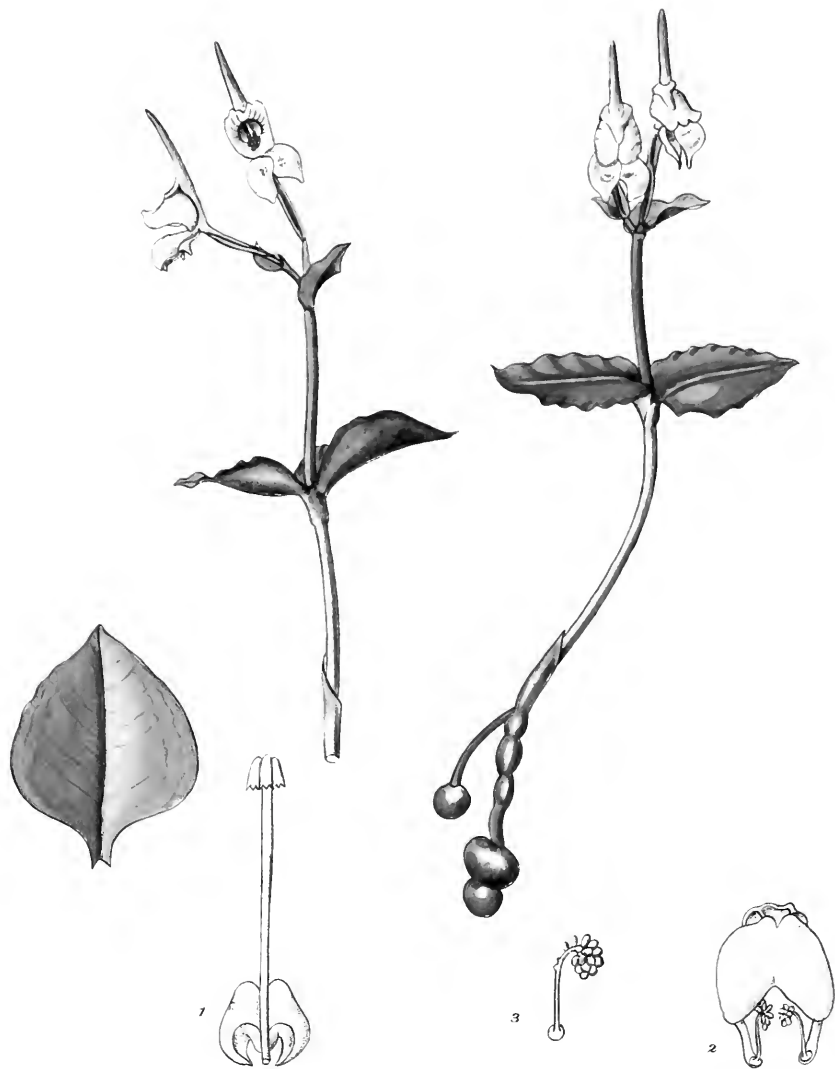


PLATE 327.

DISPERIS ANTHOCEROS.

Transvaal, Natal.

ORCHIDACEAE. Tribe OPHRYDEAE.

DISPERIS, Sw.; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 633.

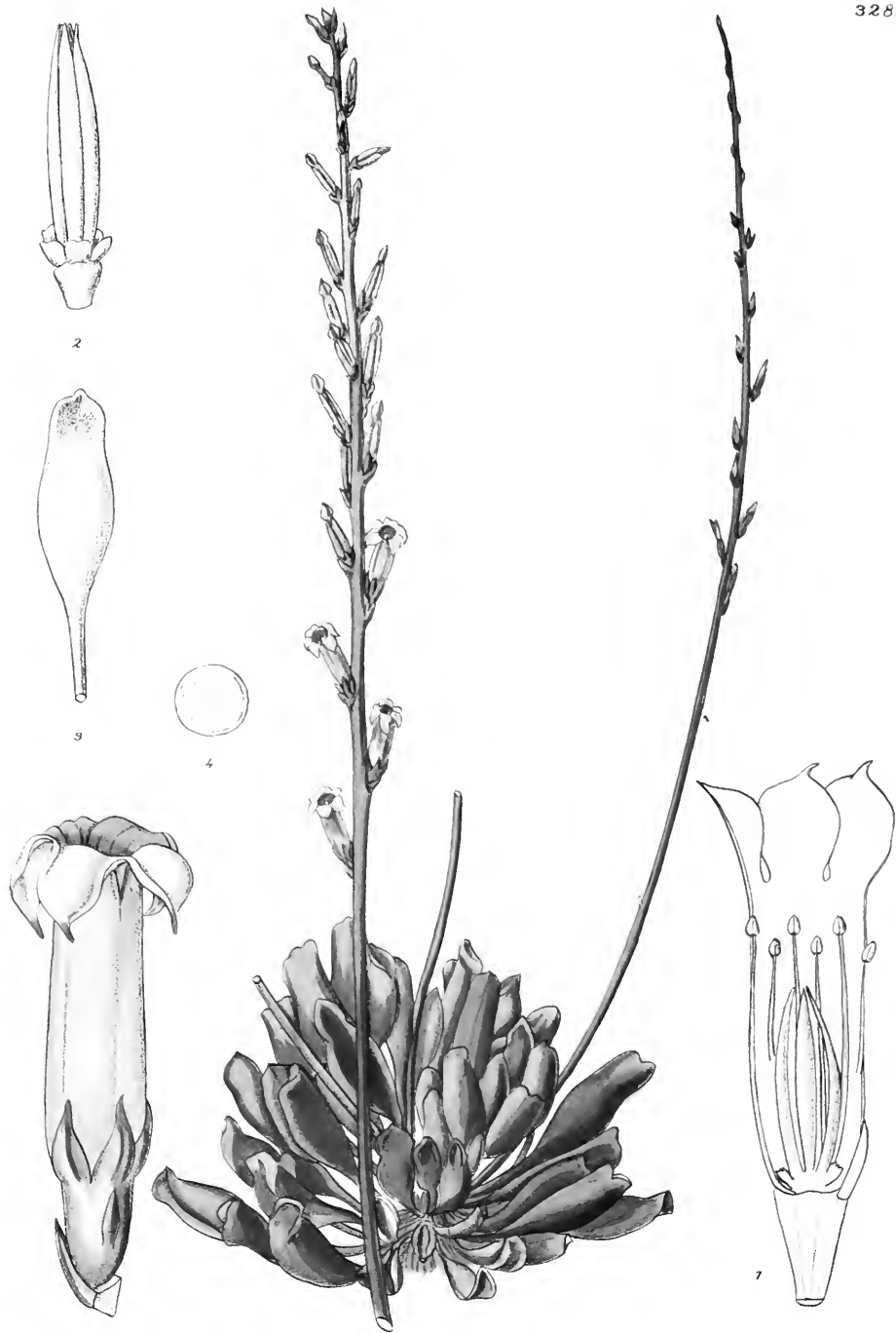
Disperis anthoceros, *Reichb. f. Otia Bot. Hamb.* vol. ii. p. 103; *Fl. Cap.* vol. v. sect. 3, p. 311.

On Plates 236 and 308 we figured species of *Disperis* and through the courtesy of Mr. F. Stone, who forwarded us the living plants of *D. Fanniniae*, we are able to figure another species which has previously not been illustrated. *Disperis anthoceros* has been recorded from Natal, and in the Transvaal is found in the Drakensbergen, where Mr. E. E. Galpin collected it near Barberton in 1890 and Mr. F. Stone at Kaapsche Hoop in 1929. Mr. F. Eyles, F.L.S., recorded it from near Salisbury (Rhodesia) in 1920. It has also been found in the "Fountains Valley" near Pretoria by Mr. J. J. van Nouhuys. On the mountains of the eastern Transvaal the species flowers during the month of March. The plant is a shade lover and is found growing under trees. It has been successfully cultivated in Pretoria in the lathe house at the Botanical Laboratories.

DESCRIPTION:—*Plant* 8 to 20 cm. high. *Stem* rather slender, glabrous. *Leaves* cauline, 2, subopposite, sessile or subsessile, broadly ovate or subcordate-ovate, acute, glabrous, 2 to 4.5 cm. long, 1 to 2.5 cm. broad. *Scapes* 8 to 20 cm. high, short or subcorymbose, 1-5-flowered. *Bracts* leaf-like in shape and texture, .4 to 1.5 cm. long. *Pedicles* 1.2 to 1.6 cm. long. *Flowers* medium-sized, white with lilac spots. Dorsal sepal galeate, 1 to 1.2 cm. long, with a short broadly triangular acute deflexed limb and a narrowly conic-oblong obtuse galea; lateral sepals spreading, obliquely ovate, subacute, 6 to 7 mm. long, with a short broad subconical sac below the middle. *Petals* cohering with the dorsal sepal, broadly ovate-oblong,

subobtuse, 5 to 6 mm. long, with the outer margin undulate; lip narrowly unguiculate, 8 mm. long; limb reflexed, ovate-oblong, conduplicate, very short; appendage recurved, bilobed, with somewhat spreading lobes. *Column* short; rostellum broadly ovate, obtuse, with reflexed margin; arms cartilaginous, linear-oblong, twisted, under 2 mm. long [*Fl. Cap.*]. (National Herbarium, Pretoria, No. 7942.)

PLATE 327.—Fig. 1, column, front view; Fig. 2, column, back view; Fig. 3, a pollinium.
F.P.S.A., 1929.



C. Letty del.

COTYLEDON SCHONLANDII.

Cape Province.

CRASSULACEAE.

COTYLEDON, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. i. p. 658.**Cotyledon Schonlandii**, *Phillips*, sp. nov., a *C. cristato* Haw., foliis teretibus differt.

Caulis 4 cm. longus, villosus. *Folia* 3·5 cm. longa, 1 cm. lata, teretia, basi angustata, apice paullo plana concavaque, glanduloso-pubescentia. *Scapus* 37 cm. longus, teres, glaber. *Inflorescentia* spicata. *Bracteae* 4 mm. longae, lanceolatae; bracteolae 2 mm. longae, lanceolatae. *Sepala* 3 mm. longa, ovata, apice acuta. *Tubus corollae* 1 cm. longus, 3·5 mm. latus; lobi 3 mm. longi, 2 mm. lati, elliptici, apiculati, pubescentes. *Stamina* 10. *Carpela* 5; squamulae 1 mm. longae, subquadratae.—*Without collector or locality in National Herbarium, Pretoria.*

Our Plate represents a most peculiar type of *Cotyledon* which at first sight may be mistaken for a species of *Aprica* or *Haworthia*, so much so indeed that it was given to the artist for illustration as a species of one or other of these two genera. It belongs to the section *Spicatae* of the genus, and in this section to the group *Cristata*. It is nearly related to *C. cristata*, Haw., but differs in the body of the leaf, being terete and not flattened. We have seen a photograph of a *Cotyledon* taken by Mr. N. E. Brown of Kew which illustrates a plant remarkably like the one here figured, but the leaves are not so long attenuated at the base and are conspicuously spotted. We understand Mr. Brown has described this plant but not published the description. Unfortunately we have no record as to where our plant was collected.

It is with extreme pleasure that we name this remarkable *Cotyledon* after Dr. S. Schonland of Grahamstown, who has

done more than anyone else to extend our knowledge of the family *Crassulaceae*.

DESCRIPTION :—*Stem* 4 cm. long, densely covered with long shaggy coir-like bristles. *Leaves* crowded on the stem, 3.5 cm. long, 1 cm. in diameter, almost terete in cross-section, constricted below to form a terete petiole, concave above on the under surface, finely glandular-pubescent. *Scape* 37 cm. long, terete, with 2 to 3 small bracts, glabrous. *Inflorescence* spicate, with about 27 flowers. *Bract* 4 mm. long, lanceolate; bracteoles 2 mm. long, lanceolate. *Sepals* 3 mm. long, ovate, acute (bract, bracteoles, and sepals covered with a white powder). *Corolla-tube* 1 cm. long, 3.5 mm. in diameter, covered with a powdery substance on the lower portion; lobes spreading, at length reflexed, 3 mm. long, 2 mm. broad, elliptic, apiculate, pubescent on the inner face. *Stamens* 10 of two different lengths, adnate to the corolla-tube; anthers subglobose. *Carpels* 5; glands 1 mm. long, almost quadrate. (National Herbarium, Pretoria, No. 7944.)

PLATE 328.—Fig. 1, median longitudinal section of flower; Fig. 2, carpels showing scales at base; Fig. 3, leaf; Fig. 4, cross-section of leaf through the middle.

F.P.S.A., 1929.



C. Letty del.

PLATE 329.

IXIA MACULATA.

Cape Province.

IRIDACEAE. Tribe IXIEAE.

IXIA, Linn. ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 704.

Ixia maculata, Linn. *Sp. Pl.* ed. ii. 1664; *Fl. Cap.* vol. vi. p. 81.

The species of *Ixia* figured on the accompanying Plate differs from *I. monadelpha* (see Plate 317) in having the filaments of the stamens free instead of connate. Being one of the so-called "Cape bulbs" it found its way early into European gardens and has been frequently illustrated in botanical publications. The first illustration appeared in 1797 in Jacquin's *Horti Schoenbrunnensis*, and four years later was figured in the *Botanical Magazine*, t. 539. The species has a number of colour varieties, of which three are recognised in the *Flora Capensis*. *Ixia maculata* is confined to the south-western portion of the Cape Province and extends from the Cape Peninsula, through the Malmesbury, Tulbagh and Worcester districts to Clanwilliam. We are indebted to Mr. J. C. van Balen, the officer-in-charge of the Union Building grounds, for specimens which he raised from seed supplied by the National Botanic Gardens, Kirstenbosch.

DESCRIPTION :—*Corm* 1.7 cm. in diameter, globose. *Leaves* distichous, about 3 pairs, 10 cm. long, 7 mm. broad, linear, acuminate, acute. *Scape* 17 cm. long, about 9-flowered. *Bracts* 8 mm. long, membranous, with dark-brown streaks. *Perianth-tube* 1.2 cm. long, cylindric; lobes 2 cm. long, 1 cm. broad, oblong-elliptic, obtuse; throat dark-purple. *Anthers* longer than the filaments; style-branches linear, reaching to the level of the anthers. (National Herbarium, Pretoria, No. 7959.)

PLATE 329.—Fig. 1, single flower; Fig. 2, median longitudinal section
of flower; Fig. 3, bract.
F.P.S.A., 1929.



PLATE 330.

DISPERIS MICRANTHA.

Cape Province, Transvaal.

ORCHIDACEAE. Tribe OPHRYDEAE.

DISPERIS, *Sw.*; *Benth. et Hook f. Gen. Plant.* vol. iii. p. 633.

Disperis micrantha, *Lindl. Gen. & Sp. Orch.* 370; *Fl. Cap.* vol. v. sect. 3, p. 308.

This species of *Disperis*, as well as *D. anthoceros* (Plate 327), is of interest as having been found in the neighbourhood of Pretoria. Both these species occur in the mountains round Barberton in the north-eastern Transvaal and are examples of high mountain species which occur in the Pretoria flora, but only in the watered valleys. *Disperis micrantha* does not appear to have been figured previously, and we are glad to publish an illustration of another species of a typical South African genus of *Orchidaceae*.

We are indebted to Mr. J. J. van Nouhuys for the specimens which he collected in the "Fountains Valley" near Pretoria.

DESCRIPTION:—*Plant* 9 to 21 cm. high. *Stem* simple, terete, glabrous. *Leaves* 2 to 3, cauline, amplexicaul, 2 to 4 cm. long, 1.5 to 3 cm. broad, ovate, glabrous. *Bracts* resembling the leaves but smaller. *Inflorescence* a single flower or up to 6-flowered, most commonly 2-flowered. *Dorsal sepal* about 3 mm. long, galeate, with a triangular acuminate deflexed limb and a broadly saccate galea; lateral sepals, 3 mm. long, spreading, obliquely ovate-oblong, acuminate, with a short broadly conical obtuse sac above the middle. *Petals* cohering with the margin of the dorsal sepal, 3 lin. long, obliquely falcate-ovate, acute; lip narrowly unguiculate; limb reflexed, with 2 short diverging lobes; appendage broadly-oblong, obtuse, papillose, longer than the limb. *Column* short; rostellum broadly rounded, obtuse, concave; arms 1 mm. long, cartilaginous, saphulate-oblong, obtuse, twisted. (National Herbarium, Pretoria, No. 7962.)

PLATE 330.—Fig. 1, single flower; Fig. 2, side view of flower; Fig. 3, column; Fig. 4, a pollinium.
F.P.S.A., 1929.



C. Letty del

EXOCHÆNIUM GRANDE

Cape Province, Orange Free State, Natal, Transvaal.

GENTIANACEAE. Tribe EXACEAE.

EXOCHÆNIUM, *Griseb.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 804 (under *Belmontia* E. Mey).

Exochænum grande, *Griseb. in DC. Prodr.* vol. ix. p. 55; *Fl. Cap.* vol. iv. sect. i. p. 1094.

In the *Kew Bulletin* (1908, pp. 336-341) are some critical notes on the genus *Exochænum* which make it unnecessary for any remarks here on the history of the genus. It is for the first time that we figure a species of the family *Gentianaceae*, and so far as we have been able to ascertain our illustration of *Exochænum grande* is the first to be published in a botanical publication. The family *Gentianaceae* has mainly a temperate distribution and is represented by about 50 genera with over 500 species. In South Africa we have recorded 9 genera and about 100 species, the largest genus being *Sebaea* with over 70 species. The genus *Exochænum* is represented by about 11 species, all tropical African, and one of these (*E. grande*) extends into South Africa.

Our description and Plate were prepared from specimens collected by Mr. A. O. D. Mogg, M.A., near Pretoria in April 1929. It is a common annual in grass veld and might appropriately be called the South African primrose.

DESCRIPTION:—A small annual herb, 13 to 20 cm. high. *Stem* glabrous. *Leaves* opposite, 1.5 to 2.5 cm. long, 0.4 to 1 cm. broad, lanceolate to ovate, obtuse, glabrous. *Calyx segments* 1.8 cm. long, ovate, acuminate, acute, with a broad dorsal wing, glabrous. *Disk-scales* opposite the sepals and between them and corolla-tube. *Corolla-tube* 2.6 cm. long, swollen at the base, then cylindrical, then expanded into a campanulate portion, glabrous; lobes 1.6 cm. long, 6 mm. broad, more or less oblong, acute or sometimes obtuse, glabrous.

Stamens in long-styled flowers with almost sessile anthers, in short-styled flowers anthers with filaments; anthers with apical glands. *Ovary* ovoid, glabrous; style in some flowers longer, in others shorter than the stamens; stigma papillate. (National Herbarium, Pretoria, No. 7964.)

PLATE 331.—Fig. 1, median longitudinal section of flower; Fig. 2, lower portion of corolla-tube; Fig. 3, pistil from long-styled flower; Fig. 4, anthers showing apical glands; Fig. 5, cross-section of ovary.

F.P.S.A., 1929.



C. Letty del.

PLATE 332.

KLEINIA ARTICULATA.

Cape Province.

COMPOSITAE. Tribe SENECIONIDEAE.

KLEINIA, *Haw.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 449 (under *Senecio*).

Kleinia articulata, *Haw. Succ. Pl.* p. 315; *Fl. Cap.* vol. iii. p. 319.

On Plate 28 we figured a plant which was described and named *Senecio stapeliiformis*. At the time of drawing up the description the specimen was submitted to the Director of the Royal Botanic Gardens at Kew, who reported: "Botanists dealing with local floras have always been inclined to regard them (i.e. *Senecio* and *Kleinia*) as distinct genera, but when the habit of the world species of *Senecio* is considered, varying from the tiny groundsel to the arboreal species of East Africa, generic characters derived from it are found to be quite useless." In 1924 (*Botanical Magazine*, t. 9030) Dr. O. Stapf republished a figure of the plant we figured on our Plate 28 and gave it a new combination, *Kleinia stapeliiformis*. Dr. Stapf in this publication gives his reasons for keeping the genera *Senecio* and *Kleinia* distinct. As we have not the facilities to determine for ourselves which of the above views should be followed, we prefer publishing the figure and description of our plant under a known name rather than make a new combination * which later may have to be sunk into the synonymy. Our Plate was

* This combination was made in 1845 by Schult. Bip. in *Flora*, vol. xxviii. p. 500. In regard to the report from Kew mentioned above, I may say that it largely reflects my own opinion. In my studies on the families and genera of flowering plants I have frequently to deal with a problem such as the status of a group of plants like *Kleinia*, and I am firmly of the opinion that the habit character alone cannot be used for the segregation of genera. If we break up *Senecio* on these grounds, then why not split up *Euphorbia* and other large genera in which equally various habit forms are found? Genera should be studied from the point of view of a monographer of the family and not from the narrower concepts of a local flora or for the convenience of the horticulturist.—J. H.

prepared from specimens which flowered at the Botanical Laboratories in Pretoria, which were collected at Beaufort West in November 1926 by Mr. C. D. B. Leibenberg, B.Sc. When growing under natural conditions the joints of the stems are shorter, lie flat on the ground, and have a few leaves near the apex.

DESCRIPTION:—A semi-decumbent plant, with thick cylindrical articulated stems. *Segments* of stem 1·5 to 10 cm. long, up to 1·7 cm. in diameter, light green in colour, with darker green markings radiating from the points of insertion of the leaves. *Leaves* somewhat succulent; petioles 1 to 4 cm. long, *convex* on the back, channelled on the face; lamina 1·2 to 2·9 cm. long, 1·5 to 2·5 cm. broad, mostly 3-lobed, sometimes entire, obtuse, glabrous. *Peduncle* somewhat fleshy, arising from the apex of the stem-segments, about 12 cm. long, cylindrical, bearing usually 4 heads. *Involucral-bracts* eight, 8 mm. long, 1·5 mm. broad, linear, acuminate, acute, green with membranous margins. *Corolla* 7 mm. long, with the lower half narrowly cylindrical and expanded to a cup at the base and the upper half suddenly dilated into a subcampanulate portion: lobes 1·5 mm. long, linear, subacute. *Anthers* purple, blunt at the base, with a lanceolate apical appendage. *Style-branches* linear. *Achenes* 4 mm. long, more or less terete, ridged, hirsute. *Pappus* 7 mm. long, rough. (National Herbarium, Pretoria, No. 7963.)

PLATE 332.—Fig. 1, a single flower; Fig. 2, part of involucre; Fig. 3, pappus-hair.

F.P.S.A., 1929.

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PLATE 333.

ALOE AFRICANA.

Cape Province.

LILIACEAE. Tribe ALOINEAE.

Aloe, Linn. ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 776.

Aloe africana, *Mill. Gard. Dict.* ed. viii. No. 4 ; *Fl. Cap.* vol. vi. p. 327.

Aloe africana belongs to the subgenus *Pachidendron*, to which *A. ferox* and *A. rupestris* figured on Plates 169 and 178 respectively also belong. It was figured in the *Botanical Magazine* for the year 1824 (Plate 2517) from a plant which flowered in a collection at Norwich, England, in 1823. This species of *Aloe* is confined to the coastal belt and is found plentifully in the neighbourhood of Port Elizabeth and Uitenhage. The particular specimen illustrated was collected by Mr. L. R. Vogt, near Bathurst, and grown in his garden at Waterkloof, Pretoria.

DESCRIPTION :—*Stem* tall, crowned with a rosette of leaves. *Leaves* 0·5 m. or more long, 7·5 cm. broad, lanceolate, acuminate, pungent, convex on the back, somewhat flat or slightly concave on the upper surface, strongly toothed on the margins, with scattered teeth on the upper two-thirds of the back and with 2 or 3 teeth on the upper surface. *Inflorescence* branched. *Peduncle* somewhat flattened or semi-terete, 1·8 to 2·8 cm. in diameter, bearing membranous ovate bracts. *Floral bracts* membranous, 1 cm. long, 7 mm. broad. *Pedicels* 3 mm. long, persistent. *Raceme* 23 to 30 cm. long. *Flowers* at first dragon's-blood red (*R.C.S.*, Plate XIII), at length becoming lemon chrome (*R.C.S.*, Plate IV), half pendulous but upturned near the apex. *Perianth* (in mature flowers) 4 cm. long; lobes 1·3 cm. long, oblong, obtuse. *Filaments* in young flowers with a double bend, semi-terete; anthers 6 mm. long. *Ovary* 9 mm. long, ellipsoid; style 3 cm. long, terete, stigma small. (National Herbarium, Pretoria, No. 7976.)

PLATE 333.—Fig. 1, plant, sometimes up to 20 ft. high; Fig. 2, median longitudinal section of flower.
F.P.S.A., 1929.



PAVONIA MEYERI.

Cape Province, Natal, Transvaal.

MALVACEAE. Tribe URENEAE.

PAVONIA Cav.; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 205.

Pavonia Meyeri, *Mast. in Oliv. Fl. Trop. Afr.* vol. i. p. 191; *Fl. Cap.* vol. i. p. 169 (under *P. mollis* E. Mey).

This species represents another family which we figure for the first time, and only the difficulty of obtaining fresh material, of a group of plants most of which have fugacious flowers, has prevented us from showing this family before. The genus *Pavonia* contains over 60 species, most of which occur in America; there are a few in Asia and Africa. In South Africa about 6 species are recorded, and the species here figured extends into tropical Africa.

Pavonia Meyeri occurs in the Fountains Valley near Pretoria, where it grows near water and in the shade of trees. It is a subherbaceous plant up to 4 ft. high, not much branched with highly aromatic leaves and covered with delicate pink flowers.

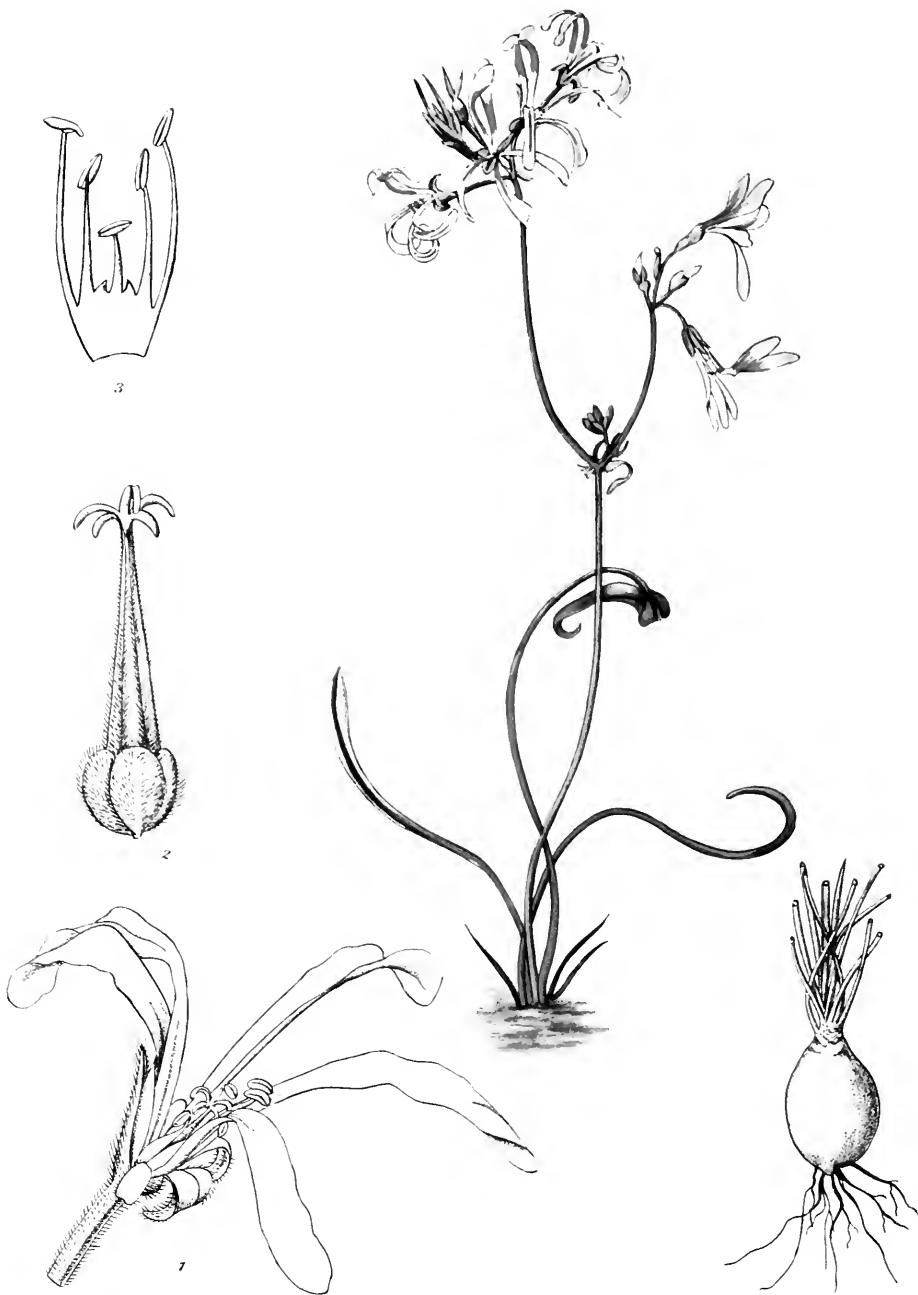
We are indebted to Miss I. C. Verdoorn for specimens collected in the Fountains Valley in April 1929.

DESCRIPTION:—*Plant* up to 1.3 m. high. *Stem* and *branches* terete, with glandular hairs. *Leaves* far separated on the stems; petiole 1.3 to 7 cm. long, terete, glandular-pilose; blade 3.5 to 6 cm. long, 2.2 to 4.5 cm. broad at the widest part, ovate, subacuminate, obtuse, subcordate at the base, with crenate margins and palmate venation, pubescent beneath, subglabrous above. *Flowers* shortly petioled, 2.8 cm. in diameter when expanded. *Epicalyx* of 5 segments; segments 9 mm. long, linear, obtuse, sparsely pilose. *Calyx* 7 mm. long, divided half-way, glandular-pilose; lobes 3.5 mm. long, ovate, obtuse, distinctly 3-nerved. *Petals* 1.8 cm. long, 8 mm. broad, obovate, rounded above, glabrous. *Staminal-*

column 1.4 cm. long. *Stigmas* capitate, penicillate. (National Herbarium, Pretoria, No. 8018.)

PLATE 334.—Fig. 1, calyx and epicalyx; Fig. 2, staminal column; Fig. 3, a single style-lobe showing penicillate stigma; Fig. 4, fruit; Fig. 5, a simple carpel from fruit; Fig. 6, cross-section of section of fruit, showing folding of cotyledons in the seed; Fig. 7, embryo dissected out from seed.

F.P.S.A., 1929.



PELARGONIUM LONGIFOLIUM var. LONGIFLORUM.

Cape Province.

GERANIACEAE. Tribe PELARGONIEAE.

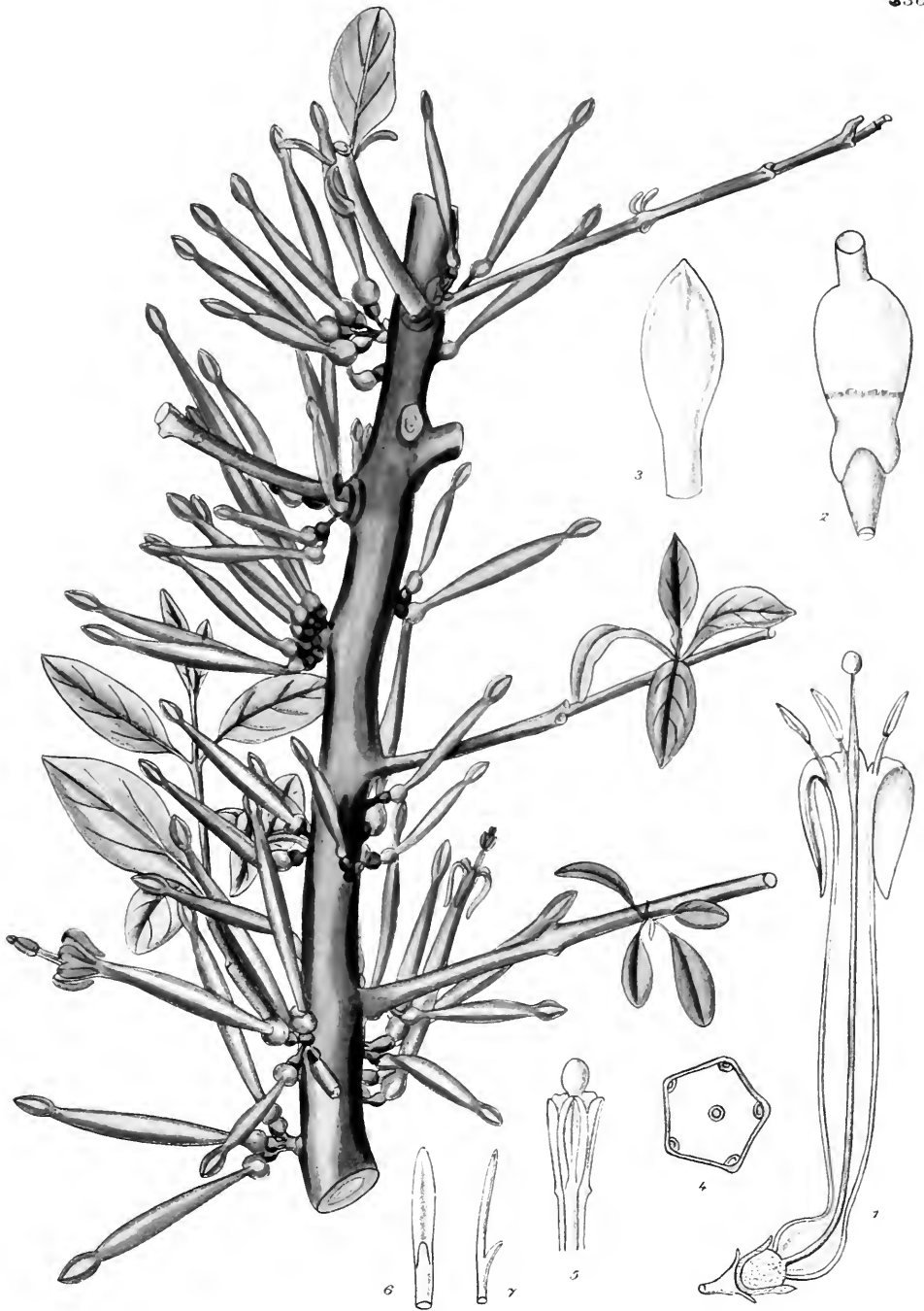
PELARGONIUM *L'Her.*; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 273.

Pelargonium longifolium, *Jacq. Ic. Rar.* t. 518, var. **longiflorum** *Harv.*;
Fl. Cap. vol. i. p. 262.

The species of *Pelargonium* figured on the accompanying Plate belongs to the section *Hoarea* of the genus. This particular section contains over 40 species, which are stemless plants with tuberous roots, and the flowers have 4 or 5 petals. *Pelargonium longifolium* should be compared with *P. crassicaule* figured on Plate 52, which belongs to a totally different section of the genus. Jacquin in his *Icones Plantarum Rariorum* figured the species more than once about the year 1786; he recognised three species which Harvey in the *Flora Capensis* reduced to varieties of one species. Our specimen was collected by Mr. C. A. Smith, B.Sc., and flowered in the grounds of the Division of Plant Industry in October 1928.

DESCRIPTION:—*Plant* 19 cm. high, stemless, with the leaves and inflorescence from an underground tuber. *Leaves* 3 to 4; petiole up to 1 cm. long, terete, glabrous; blade 2 to 3.5 cm. long, 3 to 4 mm. broad, linear, pilose. *Peduncle* terete, pubescent, branched into two parts about half-way up, with each branch bearing an umbel of 6 to 8 flowers. *Pedicels* 7 to 16 mm. long, pubescent. *Calyx-segments* 6 mm. long, lanceolate, acuminate, acute, pilose. *Petals* 2.1 cm. long, 2.5 mm. broad, oblong, attenuated into a long claw, blotched with crimson; lower petals smaller and narrower. *Stamens* 5, fertile, with the filaments connate at the base. *Gynaecium* pilose. (National Herbarium, Pretoria, No. 7977.)

PLATE 335.—Fig. 1, a single flower; Fig. 2, gynaecium composed of five
carpels; Fig. 3, stamens.
F.P.S.A., 1929.



C.Letty del.

LORANTHUS RUBROMARGINATUS.

Transvaal.

LORANTHACEAE. Tribe EULORANTHEAE.

LORANTHUS *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 207.

Loranthus rubromarginatus, *Engl. in Engl. Bot. Jahrb.* vol. xl. p. 535;
Fl. Cap. vol. v. sect. 2. p. 116.

This is the first opportunity we have had of illustrating a species of a very characteristic group of South African stem parasites. The genus *Loranthus* contains over 500 species which are natives of the Old World, and of these 22 species have been recorded from South Africa. The genus is related to *Viscum* (the Mistletoe), of which *V. capense* is perhaps the best known species. The species of *Loranthus* figured on the accompanying Plate has been recorded from the Barberton district, from the Magaliesberg near Pretoria and from hills near Johannesburg. It is not particular as to its host and has been recorded as parasitic on several species of trees. Dr. S. Schonland (*Records Albany Mus.*, vol. ii. p. 435) describes the so-called "wood-flowers" found on *Burkea africana* and caused by the parasite *Loranthus Dregei*, and probably several other species of *Loranthus* produce these curious malformations on their hosts. *Loranthus rubromarginatus* is a very conspicuous plant when in full bloom. The mature buds are in a state of great turgidity, and if the corolla-lobes are touched they suddenly open and become reflexed; the stamens also, if they are pricked, spring apart suddenly and the filaments become spirally coiled.

We are indebted to Mr. J. J. van Nouhuys for the specimen which he collected on the northern side of the Magaliesberg near Hornsnek.

DESCRIPTION:—*Branches* with distinct lenticels, glabrous. *Leaves* often clustered on short shoots at the end of the branches, 3 to 5 cm. long, 1 to 3 cm. broad, elliptic, obtuse,

glabrous; petiole 2 to 5 mm. long. *Flowers* arising on the old wood. *Calyx* 5 mm. long, truncate. *Corolla* 4 cm. long, cylindric, then constricted near the base and the basal portion suddenly globose; lobes in mature bud valvate, forming five prominent ridges; lobes in open flowers strongly reflexed, 7 mm. long, 2.5 mm. broad, spathulate-oblong, obtuse. *Filaments* 5 mm. long, connate, produced into a tooth in front of the anther; anther 3.5 mm. long, linear. *Style* 4.5 cm. long, terete, skittle-shaped. (National Herbarium, Pretoria, No. 7975.)

PLATE 336.—Fig. 1, median longitudinal section of flower; Fig. 2, lower part of corolla-tube showing the calyx; Fig. 3, top of corolla (in bud); Fig. 4, cross-section through top of corolla (in bud); Fig. 5, stamens surrounding style; Fig. 6, anther (front view); Fig. 7, anther (side view).

F.P.S.A., 1929.



C. Letty del.

PLATE 337.

GLADIOLUS LUDWIGII.

Cape Province, Natal, Transvaal.

IRIDACEAE. Tribe IXIÆAE.

GLADIOLUS *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 709.

Gladiolus Ludwigii, *Pappe ex Bkr. Handb. Irid.* 215; *Fl. Cap.*
vol. vi. p. 150.

On Plate 125 we figured the variety *calvatus* of this species, and, as pointed out there, the variety differs from the species in being glabrous. We doubt, however, whether this distinction is sufficient to warrant the retention of a definite glabrous variety, as our plant appears to be an intermediate stage in hairiness between the two extremes. It also differs from the plant figured on Plate 125 by the inflorescence being more compact and more definitely secund.

We are indebted for the specimens to Mr. J. J. van Nouhuys, who collected corms on the flats between Barberton and Kaapsche Hoop, and flowered them in the grounds of the Division of Plant Industry in April 1929.

DESCRIPTION:—*Plant* 1 to 1.3 m. high. *Leaves* basal, .6 to 1.1 m. long, 2.5 cm. broad, prominently veined, softly pilose; upper leaves shorter and narrower. *Inflorescence* 40 cm. long, densely many-flowered, with the flowers in two distinct rows. *Outer-bract* herbaceous with a membranous tip, 2.5 cm. long, 2 cm. broad, ovate, acuminate, very distinctly keeled, often ciliate on the keels, clasping the inner bract; *inner bract* 2.6 cm. long, 9 mm. broad, oblong in outline with two distinct keels, folding round the flower and split half-way down the inner face, herbaceous, bilobed and membranous at the tip. *Perianth-tube* 1.3 cm. long, scarcely widened above, glabrous; lobes 3 cm. long, 9 mm. broad, more or less obovate; three lower lobes smaller and forming a lip; anthers 1 cm. long, linear, sagittate at the base. *Style-branches* 1 cm. long,

slightly widened at the tip, papillose along the margins.
(National Herbarium, Pretoria, No. 8025.)

PLATE 337.—Fig. 1, median longitudinal section of flower; Fig. 2, outer and inner bracts showing the inner clasped by the outer; Fig. 3, outer bract; Fig. 4, inner bract; Fig. 5, portion of leaf showing veining.

F.P.S.A., 1929.



SPARAXIS BULBIFERA var. VIOLACEA.

Cape Province.

IRIDACEAE. Tribe IXIEAE.

SPARAXIS Ker ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 708.

Sparaxis bulbifera, *Ker in Konig and Sims' Ann.* i. 226, var. *violacea* ;
Fl. Cap. vol. vi. p. 116.

On Plate 60 of this work we published a figure of *Sparaxis grandiflora* which, apart from the colour of the flower, only appears to differ from *S. bulbifera* in having larger flowers. As noted in the description accompanying the above Plate, there is a range of colour variety in the flowers, and the same character is found in the species here figured. In the species itself the flowers are normally yellow.

Soon after corms of "Cape bulbs" were introduced into Europe and interest stimulated in the Cape flora, numerous descriptions and illustrations of them appeared, and at least 12 species of the genus *Sparaxis* were published. Baker in the *Flora Capensis* reduces this number to three, but some authors recognise only one species which exhibits several varieties differing in the size and colouring of the flowers, and this may probably be the correct view.

We are indebted to Mr. J. C. van Balen, the officer-in-charge of the Union Building grounds, for specimens which he cultivated from seed received from the National Botanic Gardens, Kirstenbosch.

DESCRIPTION :—*Corm* 1.2 cm. in diameter. *Leaves* 7 to 8, distichous, 5 cm. long, 0.5 to 1 cm. broad, falcate, glabrous. *Inflorescence* 3 to 4-flowered. *Bracts* 1 cm. long, 1 cm. broad, membranous, sometimes produced into long fine awns. *Perianth-tube* 1 cm. long, cylindric, becoming campanulate above; lobes 3 cm. long, 0.8 to 1 cm. broad, oblong, rounded above, with a short broad claw. *Filaments* 1.2 cm. long, almost square in cross-section; anthers 9 mm. long, linear.

Style 1.3 cm. long; lobes 5 mm. long, linear. (National Herbarium, Pretoria, No. 7947.)

PLATE 338.—Fig. 1, single flower; Fig. 2, single perianth-segment; Fig. 3, bract; Fig. 4, stamen; Fig. 5, style and stigmas.

F.P.S.A., 1929.



C. Letty del.

MELASMA OROBANCHOIDES.

Cape Province, Orange Free State, Natal, Transvaal.

SCROPHULARIACEAE. Tribe GERARDIEAE.

MELASMA Berg. ; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 966.

Melasma orobanchoides, *Engl. Pfl. Ost-afr.* C. 359 ; *Fl. Cap.* vol. iv. sect. ii. p. 376.

On Plates 67 and 89 we figured representatives of two genera belonging to the same tribe of the family *Scrophulariaceae* as our present plant, but both the former differ in having long cylindric corolla-tubes. The genus *Melasma* contains about 24 species, which occur in the hotter parts of the world; in South Africa it is represented by 8 species fairly well distributed. The species are parasitic or semi-parasitic. The late Dr. Bolus recorded *M. orobanchoides* from Graaff Reinet as parasitic on a species of *Rhus*, while the specimens from which our Plate was prepared were parasitic on the roots of *Hypoestes verticillaris*. *Melasma orobanchoides* has also been reported as parasitic on cultivated crops, especially legumes, and may therefore be regarded as a potential danger to growers of legumes.

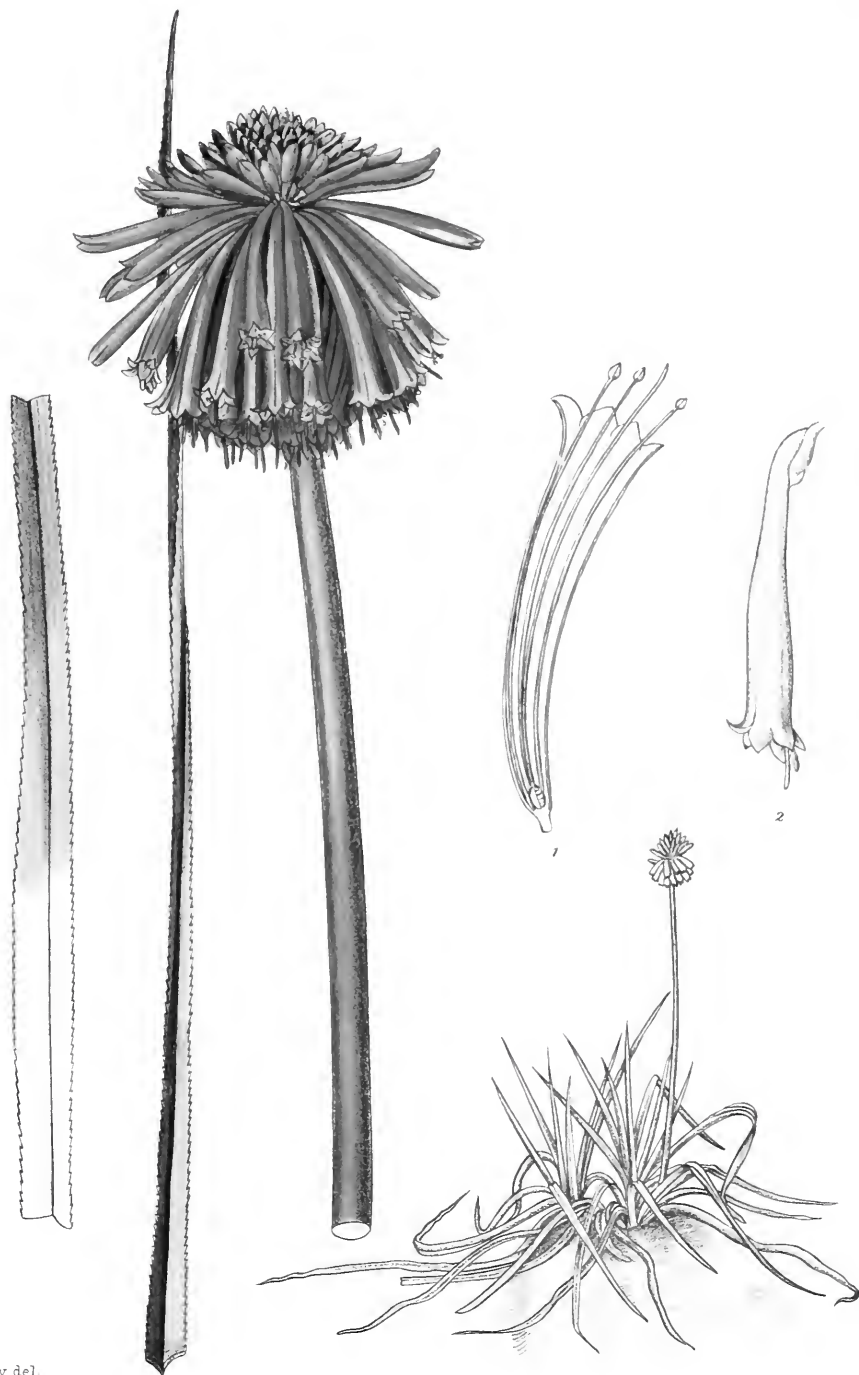
The specimens were collected by Miss I. C. Verdoorn in the Fountains Valley near Pretoria in April 1929.

DESCRIPTION :—An unbranched herbaceous plant 20 to 30 cm. high. *Stem* terete, pubescent. *Leaves* reduced to ovate bracts. *Flowers* in false whorls, opposite, or solitary, 2 cm. in diameter when expanded. *Bracts* 1 cm. long, 5 mm. broad, ovate, obtuse, 3-nerved, pubescent without; bracteoles 5 mm. long, linear, pubescent. *Calyx* 1.2 cm. long, campanulate, pubescent; tube 7 mm. long; lobes 5 mm. long, ovate, obtuse. *Corolla-tube* 7 mm. long; lobes 8 mm. long, 5 mm. broad, elliptic, obtuse. *Stamens* 4; filaments pilose above; anthers elliptic, not pointed at the base. *Ovary* 2.5 mm. long, globose, glabrous; style 7 mm. long, somewhat compressed,

glabrous; stigma simple. (National Herbarium, Pretoria,
No. 8019.)

PLATE 339.—Fig. 1, median longitudinal section of flower; Fig. 2, calyx,
bract, bracteole; Fig. 3, fruit with basal portion of style; Fig. 4, cross-
section of fruit.

F.P.S.A., 1929.



KNIPHOFIA LINEARIFOLIA.

Cape Province.

LILIACEAE. Tribe HEMEROCALLEAE.

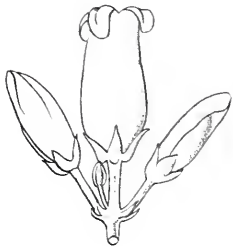
*KNIPHOFIA Moench. ; Benth. et Hook. f. Gen. Plant. vol. iii. p. 775.**Kniphofia linearifolia, Baker in Engl. Bot. Jahrb. vol. xv. Beibl. 35. 5 ; Fl. Cap. vol. vi. p. 282.*

We figured on Plate 47 a species of *Kniphofia* (*K. alooides*) perhaps the commonest species of the genus in South Africa. The genus is represented in the Union by over 30 species, and besides these about 12 species are found in tropical Africa and 2 in Madagascar. *Kniphofia* differs from the genus *Aloe* in not having succulent leaves with bitter juice, and all the species with two exceptions are stemless plants. The genus was named in honour of Johann Hieronymus Kniphof, a professor of medicine who figured and described a number of plants which he cultivated at Erfurt between the years 1758–1764. The majority of the species of *Kniphofia* go under the name of “red-hot poker,” and in Afrikaans are known as “vuurpyl” (rocket).

Our specimen was figured from a plant growing in the grounds of the Division of Plant Industry, Pretoria, and which flowered in November 1928.

DESCRIPTION:—An acaulescent plant. *Leaves* up to 67 cm. long, 3·5 to 7·5 mm. broad, linear, closely ribbed, distantly and minutely serrulate on the margins, glabrous. *Peduncle* 30 cm. long, 8 mm. in diameter, terete, scarcely narrowing upwards, glabrous. *Flowers* in a head-like raceme 4·5 cm. long; young flowers reddish, horizontal, forming an umbrella-like tuft; older flowers yellow, becoming pendulous. *Floral-bracts* 5 mm. long, oblong, scarious. *Perianth* 3·8 cm. long, 5 mm. in diameter at the throat, narrowing to the base; lobes 2 mm. long, ovate, obtuse. *Stamens* and *style* projecting in open flowers. (National Herbarium, Pretoria, No. 8017.)

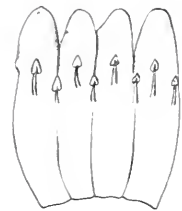
PLATE 340.—Fig. 1, median longitudinal section of flower; Fig. 2, flower showing basal bract.
F.P.S.A., 1929.



1



3



2

KALANCHOE THYRSIFLORA.

Cape Province, Basutoland, Transvaal.

CRASSULACEAE.

KALANCHOE, *Adans.*; *Benth. et Hook. f. Gen. Plant.* vol. i. p. 659.*Kalanchoe thyrsoflora*, *Harv. in Fl. Cap.* vol. ii. p. 380.

This is the first occasion on which we figure a species of the genus *Kalanchoe*, represented in South Africa by about 14 species which extend from the Transvaal and Natal through the coastal belt to Riversdale, but are rare in the central districts of the Union. The genus *Kalanchoe* differs from *Crassula* (see Plates 12, 115, 167, 173, 189, etc.) in having the stamens twice the number of the petals, and from *Cotyledon* (Plates 154, 161, 249, 289) on the character of the flower, which is tetramerous instead of pentamerous as in *Cotyledon*. *Kalanchoe thyrsoflora* sometimes attains a height of 3-4 feet when growing in grass and is a very stiff-looking plant, and has not the striking beauty of many species of *Cotyledon*. It does well in cultivation in rockeries and should find a place in every collection of South African succulents. The specimens were collected at Waterkloof near Pretoria by Miss I. C. Verdoorn.

DESCRIPTION:—*Plant* 1 to 1.3 m. high. *Stem* somewhat 4-angled, covered with a powdery bloom. *Leaves* succulent, 4 to 10 cm. long, 2 to 3.5 cm. broad, becoming smaller and narrower from the base upwards, oblong to oblong-elliptic in outline, obtuse, connate and slightly decurrent at the base, concave on the inner surface, somewhat convex on the outer, covered with a powdery bloom, glabrous. *Inflorescence* a panicle of cymes, 16 cm. long, 8 cm. in diameter. *Pedicele* 1 cm. long, terete, covered with a powdery bloom. *Calyxlobes* 4.5 mm. long, 2.5 mm. broad, ovate, obtuse, covered with a powdery bloom. *Corolla-tube* 1.5 cm. long, 7 mm. in

diameter, tubular, covered with a powdery bloom; lobes 5 mm. long, 3 mm. broad, ovate, obtuse. *Filaments* 2 mm. long, terete; anthers subglobose. *Carpels* 1.8 cm. long; stigmas simple. *Glands* 3 mm. long, 2 mm. broad, quadrate. (National Herbarium, Pretoria, No. 8053.)

PLATE 341.—Fig. 1, part of inflorescence; Fig. 2, corolla laid open to show position of stamens; Fig. 3, carpels with glands at base.
F.P.S.A., 1929.



PLATE 342.

ALOE AFFINIS.

Transvaal.

LILIACEAE. Tribe ALOINEAE.

ALOE, *Linn.* ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 776.

Aloe affinis, *Berger in Engler Pflanzenreich*, iv. 38. iii. 2. p. 206.

This *Aloe* is one of the lesser known of the species found in the Transvaal. It was first collected by Wilms near Lydenburg in 1894, and does not appear to have been extensively collected since then. It is not unlike *A. zebrina* and *A. transvaalensis* in general appearance, but differs from the former in the longer flowers and more robust spines, and from the latter in the much longer bracts. *Aloe affinis* is figured here for the first time, and we are indebted to Mr. J. C. van Balen, Gardener-in-charge, Union Buildings Gardens, for the specimen, which he cultivated and flowered in Pretoria.

DESCRIPTION :—Acaulescent plant with a basal rosette of leaves. *Leaves* up to 17 cm. long, 3·5 cm. broad, ovate-lanceolate, acuminate, with the margins toothed; teeth about 4 mm. long, ovate, usually about 8 mm. apart. *Spathe* up to 90 cm. high, branched; main axis and branches terete, glabrous. *Raceme* about 13 cm. long. *Bracts* 7 mm. long, ovate-lanceolate, long-acuminate. *Pedicels* as long as the bracts, terete, glabrous. *Perianth* 3 cm. long, conspicuously ventricose at the base; lobes 1 cm. long, ovate-oblong, obtuse. *Filaments* semi-terete; anthers 3 mm. long, oblong or elliptic in outline. *Ovary* oblong in outline; style terete; stigma simple.

PLATE 342.—Fig. 1, median longitudinal section of flower.
F.P.S.A., 1929.



PLATE 343.

CYRTANTHUS BALENII.

Zululand.

AMARYLLIDACEAE. Tribe AMARYLLEAE.

CYRTANTHUS, *Ait*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 729.

Cyrtanthus Balenii, *Phillips*, sp. nov. *Bulbus* 3 cm. diametro, ovoideus. *Folia* solitaria, 14 cm. longa, linearia, glabra. *Pedunculus* fistulosus, 5 cm. longus, glaber, 1-florus. *Bracteae* 4 cm. longae, membranaceae. *Pedicellus* ad 5 cm. longus. *Tubus perianthii* 3 cm. longus, infra cylindricus, supra infundibuliformis; lobi 2 cm. longi, ovati, apice mucronati. *Filamenta* 6 mm. longa. *Ovarium* 5 mm. longum; stylus filiformis, apice 3-lobatus. *Fructus* 3 cm. longus, 2 cm. diametro, ovoideus.

ZULULAND, St. Lucia Bay, August, *J. C. van Balen* in *National Herb.* No. 8052.

We have previously figured three species of *Cyrtanthus* (*C. helictus*, *C. sanguineus*, *C. Galpinii*), all belonging to the sub-genus *Gastronema*, which is characterised by its members having a single- or few-flowered inflorescence. The species figured on the accompanying Plate is very closely related to *C. Galpinii* (Plate 159), but differs in the much stouter peduncles, and the filaments are not very definitely in two rows.

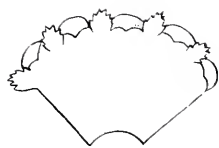
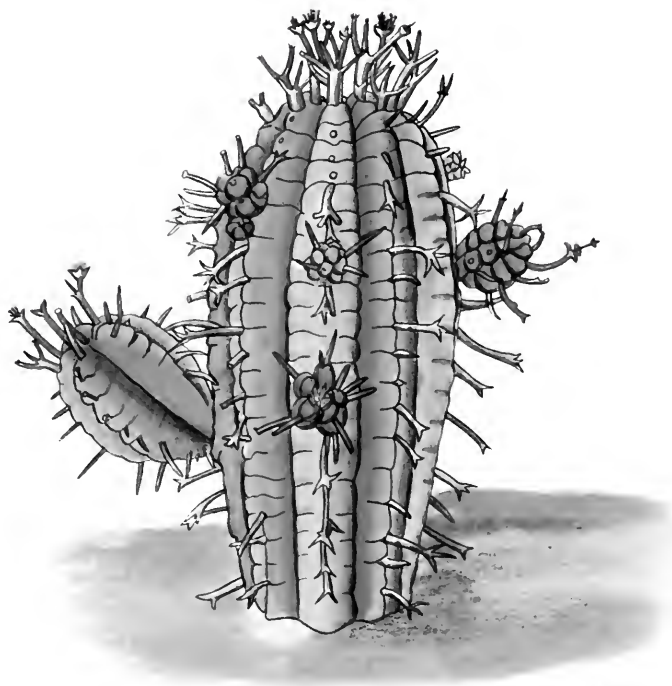
The plants were collected by Mr. J. C. van Balen, Gardener-in-charge at the Union Buildings Gardens, near St. Lucia Bay, where the plant grows in profusion. He was successful in getting them to flower in Pretoria, and it was from this material that our Plate was prepared.

DESCRIPTION :—*Bulb* 3 cm. in diameter, ovoid, with scarious brown tunics. *Leaves* produced one at a time, 14 cm. long, linear, erect and slightly recurving, glabrous. *Peduncle* hollow, 5 cm. long, bearing a single erect flower. *Bracts* 4 cm. long, membranous, ribbed with scarlet. *Pedicel* about 5 cm. long. *Perianth-tube* 3 cm. long, cylindric below, abruptly expanding into a funnel-shaped portion; lobes 6 cm. long,

ovate, mucronate. *Stamens* inserted at the mouth of the perianth-tube; filaments about 6 mm. long; anthers about 4 mm. long. *Ovary* 5 cm. long; style filiform, overtopping the anthers; stigmas 3. *Fruit* 3 cm. long, 2 cm. in diameter, ellipsoid.

PLATE 343 ($1\frac{1}{2}$ times natural size).—Fig. 1, median longitudinal section of flower.

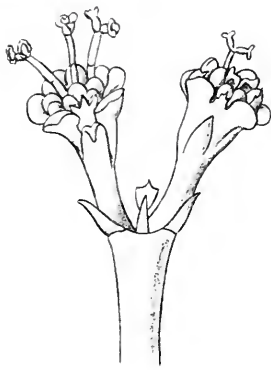
F.P.S.A., 1929.



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PLATE 344.

EUPHORBIA STELLAESPINA.

Cape Province, Namaqualand.

EUPHORBIAEAE. Tribe EUPHORBIEAE.

EUPHORBIA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 258.

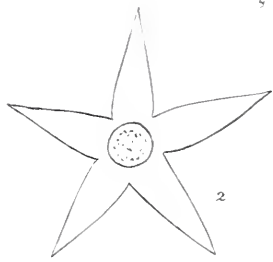
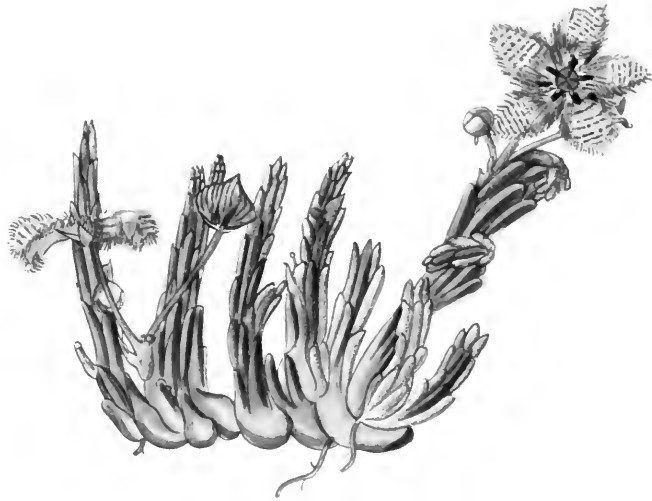
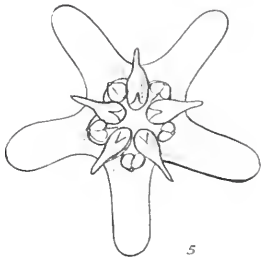
Euphorbia stellaespina, *Haw. in Phil. Mag.* 1827, 275; *Fl. Cap.* vol. v. sect. ii. p. 354.

This species belongs to a small group of three species in the genus *Euphorbia*, which all possess forked or stellately branching spines from the angles of the stem. It is quite possible, however, when more living material is available for study, that the other two species (*E. astrispina*, *E. Pillansii*) may be referred to *E. stellaespina*. The species has been recorded from the Beaufort West, Jansenville, and Carnarvon districts as well as from Little Namaqualand. We are indebted to Mr. J. C. van Balen, Gardener-in-charge of the Union Buildings Gardens, for the specimen figured. The plant was cultivated by Mr. van Balen in Pretoria.

DESCRIPTION:—*Plant* 9 cm. high, 4 cm. diameter. *Stem* ellipsoid, obtusely 9-angled, spiny, branching, with the branches globose when young. *Spines* forked or stellately branched, 0.9–1 cm. long, dark-brown. *Peduncles* massed towards the apex of the stem, 1.5 cm. long, forked or branched into 3 arms. *Involucres* solitary, 2 mm. long, 3 mm. in diam., campanulate. *Bracts* 2, 2 mm. long, 0.75 mm. broad, oblong. *Glands* 5, 1 mm. long, 0.5 mm. broad, more or less kidney-shaped when viewed from above, alternating with 5 oblong fimbriated scales. *Anthers* very distinctly 2-lobed. Only very young ovary seen. (National Herbarium, Pretoria, No. 8031.)

PLATE 344.—Fig. 1, peduncle with 2 cymes; Fig. 2, involucre laid open showing glands and scales; Fig. 3, a single male flower.

F.P.S.A., 1929.



STAPELIA NOUHUYSII.

Cape Province.

ASCLEPIADACEAE. Tribe STAPELIEAE.

STAPELIA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. ii. p. 784.

Stapelia Nouhuysii, *Phillips*, sp. nov.; affinis *S. erectiflorae* N.E.Br. sed corona differt. *Caules* ad 8 cm. longi, 4-angulati, glanduloso-pubescentes; anguli dentati. *Flores* solitarii vel 2-nati. *Pedicelli* 2-2.5 cm. longi, teretes, glanduloso-pubescentes. *Sepala* 4.5 mm. longa, obovata, acuminata, apice acuta, glanduloso-pubescentia. *Corolla* 2 cm. diametro; tubus intus villosus, extra glaber; lobi 6 mm. longi, 6 mm. lati, ovati, subacuminati, infra villosi, supra glabri, ciliati, extra glabri. *Coronae exterioris* lobi 3 mm. longi, 1 mm. lati, oblongi, apice obtuse. *Coronae interioris* lobi 3 mm. longi, bicornuti.

Clanwilliam distr.: near Lambert's Bay, *van Nouhuys* in *National Herb.*, No. 8027.

This charming little *Stapelia* is closely related to *S. erectiflora* N.E.Br., which comes from the same region, but differs in not having the corolla-lobes sharply reflexed and in the differently shaped corona. The plant was found growing on a small outcrop of Table Mountain sandstone about 2 miles north of Jackal's River between Lambert's Bay and van Puttensvlei. It was collected by Mr. J. J. van Nouhuys, who successfully cultivated it at the Division of Plant Industry, Pretoria, and after whom we have pleasure in naming the plant.

DESCRIPTION:—*Plant* spreading and rooting, forming a clump up to 30 cm. in diameter. *Stems* up to 8 cm. long, 4-angled, with the angles raised into rounded ridges each of which ends in a small white tooth, glandular-pubescent. *Flowers* solitary or 2-nate, on short peduncles; bud depressed-globose. *Pedicels* 2 to 2.5 cm. long, terete, glandular-pubescent. *Calyx-segments* 4.5 mm. long, ovate, acuminate, acute, glandular-pubescent. *Corolla* 2 cm. in diameter when fully

expanded; tube saucer-shaped, villous within, glabrous without; lobes 6 mm. long, 6 mm. broad at the base, ovate, sub-acuminate, densely villous on the lower half, glabrous on the upper half except for a marginal fringe of hairs, glabrous beneath. *Outer corona-lobes* 3 mm. long, 1 mm. broad, oblong, obtuse; *inner corona-lobes* 3 mm. long, divided into two portions—an outer erect portion and an inner sickel-shaped portion inflexed over the staminal column.

PLATE 345.—Fig. 1, part of stem; Fig. 2, calyx; Fig. 3, inner surface of corolla-lobe; Fig. 4, outer surface of corolla-lobe; Fig. 5, corona from above; Fig. 6, corona, side view; Fig. 7, outer corona-lobe; Fig. 8, cross-section of stem.

F.P.S.A., 1929.



C. Letty del

LOPHOLAENA RANDII.

Transvaal.

COMPOSITAE. Tribe SENECIONIDEAE.

LOPHOLAENA, DC.; *Benth. et Hook. fil. Gen. Plant*, vol. ii. p. 441.*Lopholaena Randii*, *Sp. Moore in Journ. Bot.* vol. xli. p. 133.

The genus *Lopholaena* is an African genus of nine species, five of which are found in South Africa, being recorded from the Transvaal and Natal. The genus is closely allied to *Senecio* and *Othonna*; it differs from the former in the character of the style-branches and from the latter in all the florets being fertile.

Lopholaena Randii was first found by Dr. R. F. Rand in the neighbourhood of Johannesburg and described by Spencer Le M. Moore in 1903. Since then the plant has been frequently collected both around Johannesburg and on the hills near Pretoria and is a characteristic shrub on the crests of the Daspoort Range. Our Plate was prepared from specimens collected by Mr. A. O. D. Mogg, M.A., in September 1929.

DESCRIPTION :—A glabrous shrub 0·6–1·3 m. high. *Branchlets* somewhat angled. *Leaves* alternate, sessile, decurrent, 1·5 to 3 cm. long, 0·5 to 1·4 cm. broad, oblong or elliptic-oblong, obtuse, 3- to 4-nerved from the base, with translucent margins, glaucous, glabrous. *Heads* 14- to 16-flowered, 1·5 to 1·8 cm. long (excluding the flowers), subcylindric or somewhat ellipsoid. *Involucre* concrete, 5-toothed; segments joined by their membranous edges; teeth ciliate. *Receptacle* honey-combed. *Corolla* 1·6 cm. long, cylindric, subcampanulate above; lobes 1·5 mm. long, ovate, obtuse. *Anthers* minutely sagittate at the base, with an ovate-oblong obtuse apical appendage 0·75 mm. long. *Ovary* 3 mm. long, ellipsoid, somewhat glandular-hairy; style-branches 2 mm. long, linear,

obtuse, glandular-hairy on the back. *Pappus* 8 mm. long, scabrid. *Young fruits* 7 mm. long, cylindric, glandular-pilose.

PLATE 346.—Fig. 1, single head; Fig. 2, a single flower; Fig. 3, stamens and part of style with style-branches; Fig. 4, young fruit.
F.P.S.A., 1929.



DIMORPHOTHECA CALENDULACEA var. DUBIA.

Cape Province.

COMPOSITAE. Tribe CALENDULACEAE.

DIMORPHOTHECA, *Moench.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 453.*Dimorphotheca calendulacea, Harv. var. dubia, Phillips.*

The illustration on this Plate should be compared with that on Plate 246, and it will be seen that the two plants not only differ in the colour of the ray-florets, but there are also small anatomical differences in the disc and ray-florets themselves. In the plant figured here the ovary of the disc-florets is not so flattened and the corolla-lobes are distinctly ciliate. The tube of the corolla of the ray-floret has much longer hairs than on the plant previously figured. These differences have led us to keep the present plant distinct as a variety until the genus is better worked.

Our plant appeared as a volunteer in the greenhouse at the Division of Plant Industry, Pretoria, and very probably the seed came originally from either Clanwilliam or Van Rhynsdorp.

DESCRIPTION:—A glandular annual herb up to 50 cm. high. *Main stem* branched and each branch ending in a head. *Radical leaves* 11.5 cm. long, 1.3 cm. broad, linear-oblong, obtuse, narrowed to the base, with the midrib prominent beneath, with usually 4 conspicuous lobes on each margin, ciliate, sparsely glandular-pilose; *cauline leaves* 3.5 cm. long, similar to the radical leaves but smaller. *Heads* 4.8 cm. in diam. when fully expanded. *Involucral-scales* 1 cm. long, linear, acute, with membranous margins, glandular-pilose. *Receptacle* 3 cm. in diam., slightly convex. *Peduncle* hollow. *Ray-florets*: *Corolla* 2.2 cm. long, 4.75 mm. broad, lanceolate, 3-toothed at the apex, tubular below, densely pilose on the tubular portion. *Ovary* papillose; *style-branches* 1 mm.

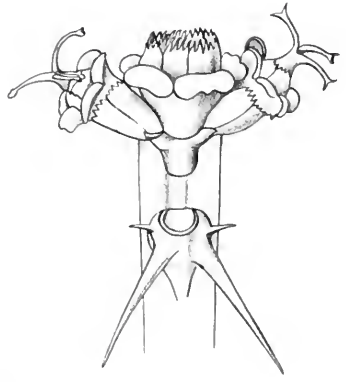
long, linear, obtuse. *Disc-florets*: *Corolla-tube* 3 mm. long, tubular at the very base, then becoming subcampanulate, sparsely glandular-pilose; lobes 0.75 mm. long, ovate, subacute, with a few long purple hairs at the tip. *Anthers* 1.5 mm. long, blunt at the base, with a small ovate apical appendage. *Ovary* 1.25 mm. long, flattened, with 2 shoulders; style scarcely divided, with a ring of hairs.

PLATE 347.—Fig. 1, median longitudinal section through head; Fig. 2, involucre bract; Fig. 3, lower portion of ray-floret; Fig. 4, upper portion of ray-floret; Fig. 5, unopened disc-floret; Fig. 6, disc-floret; Fig. 7, stamens; Fig. 8, style of disc-floret.

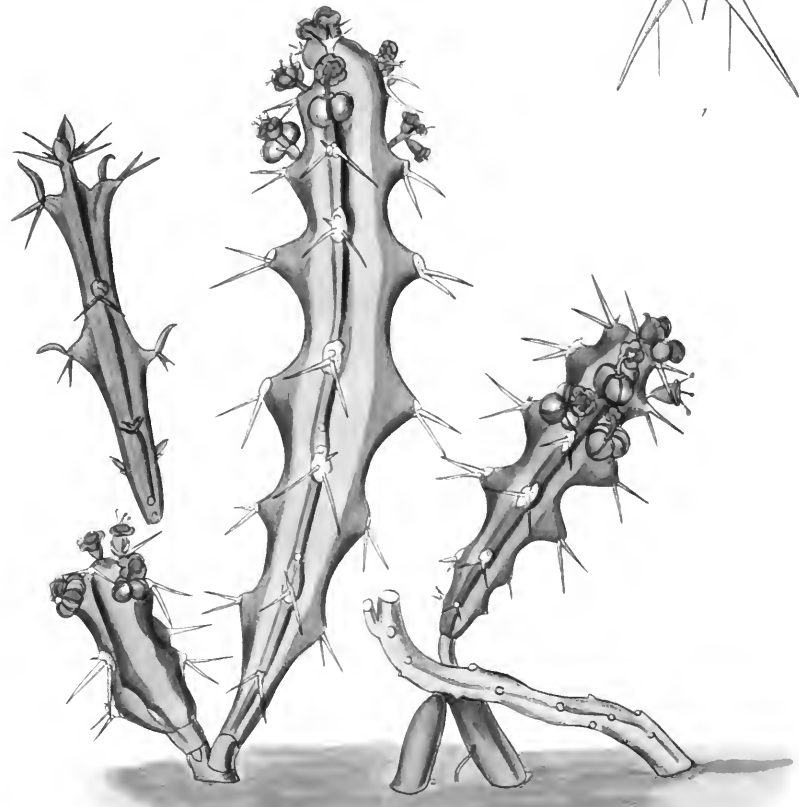
F.P.S.A., 1929.



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C. Letty del

EUPHORBIA KUNTHII.

Portuguese East Africa.

EUPHORBIACEAE. Tribe EUPHORBIEAE.

EUPHORBIA, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 258.*Euphorbia Kunthii*, *Pax in Engl. Bot. Jahrb.* vol. 34, p. 83; *Fl. Cap.* vol. v. sect. ii. p. 364.

This species of *Euphorbia* very closely resembles *E. Schinzii*, which is so common on the hills in the neighbourhood of Pretoria. The living plants can be easily distinguished, for *E. Kunthii* is greenish-grey along the depressions of the stem and light green on the ridges, while *E. Schinzii* is a uniform green. In the former the capsule is peduncled, and sessile in the latter species. *Euphorbia Kunthii* is only known from Portuguese East Africa, where it was first collected by Schlechter in 1897 and described by Pax from Schlechter's specimens. The plant not only suckers, but also produces roots from the stem when the latter comes in contact with the ground.

The specimen from which our Plate was prepared was grown by Mr. J. C. van Balen, Gardener-in-charge of the Union Building Gardens, who collected it at Delagoa Bay.

DESCRIPTION:—*Plant* 8 to 16 cm. high. *Stems* succulent, 4-angled, 1 cm. in diam., narrowing towards the base. *Leaves* appearing on young shoots only, 5 to 6 mm. long, 2·5 mm. broad, elliptic-ovate, sub-acuminate, recurved and hooked at the apex, glabrous. *Spines* and *spine-shields* on conical projections from the stem-angles; shields not as a continuous ridge. *Spines* in pairs, 9 mm. long, with a minute pair of spines higher up on the shield. *Scar* of old inflorescence evident. *Involucres* solitary or sometimes 3-nate, 3·5 to 5 mm. in diam. *Bract* 3 mm. long, 2 mm. broad, connate below, fimbriate above. *Glands of involucre* forming a cup, 2·5 mm.

broad, somewhat peltate at the apex, with an inward projecting membranous fimbriated lobe alternating with the glands. *Male flower* 3·5 mm. long, subtended by deeply fimbriated scales 3 mm. long. *Female flower* pedicelled; ovary ovoid; styles 3; stigmas 2. *Pedicels* elongating in fruit which becomes 3-lobed. (National Herbarium, Pretoria, No. 8030.)

PLATE 348.—Fig. 1, a group of 3 cymes on portion of stem which shows a spine-shield and spines; Fig. 2, cyme with young fruit; Fig. 3, cyme showing the two connate bracts; Fig. 4, a single bract; Fig. 5, gland of involucre with fimbriated scale; Fig. 6, a single male flower; Fig. 7, a female flower (pistil); Fig. 8, a leaf.

F.P.S.A., 1929.



C. Letty del.

PLATE 349.

IXIA ODORATA.

Cape.

IRIDACEAE. Tribe IXIEAE.

IXIA, *Linn.*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 704.

Ixia odorata, *Ker, Gen. Irid.* 101; *Fl. Cap.* vol. vi. p. 84.

On Plate 317 we figured a species of *Ixia* (*I. monadelphica*), the only species in the genus in which the filaments of the stamens are connate. The species shown on the accompanying plate is not localised in the *Flora Capensis*, Mr. Baker remarking that it was only known to him from the figure in the *Botanical Magazine* (t. 1173) published in 1809. From the statement in the *Botanical Magazine*, that "we have never known of the arrival of any considerable parcel of bulbs from the Cape of Good Hope which this did not accompany," the species must evidently be common, though it is not represented in all the South African herbaria.

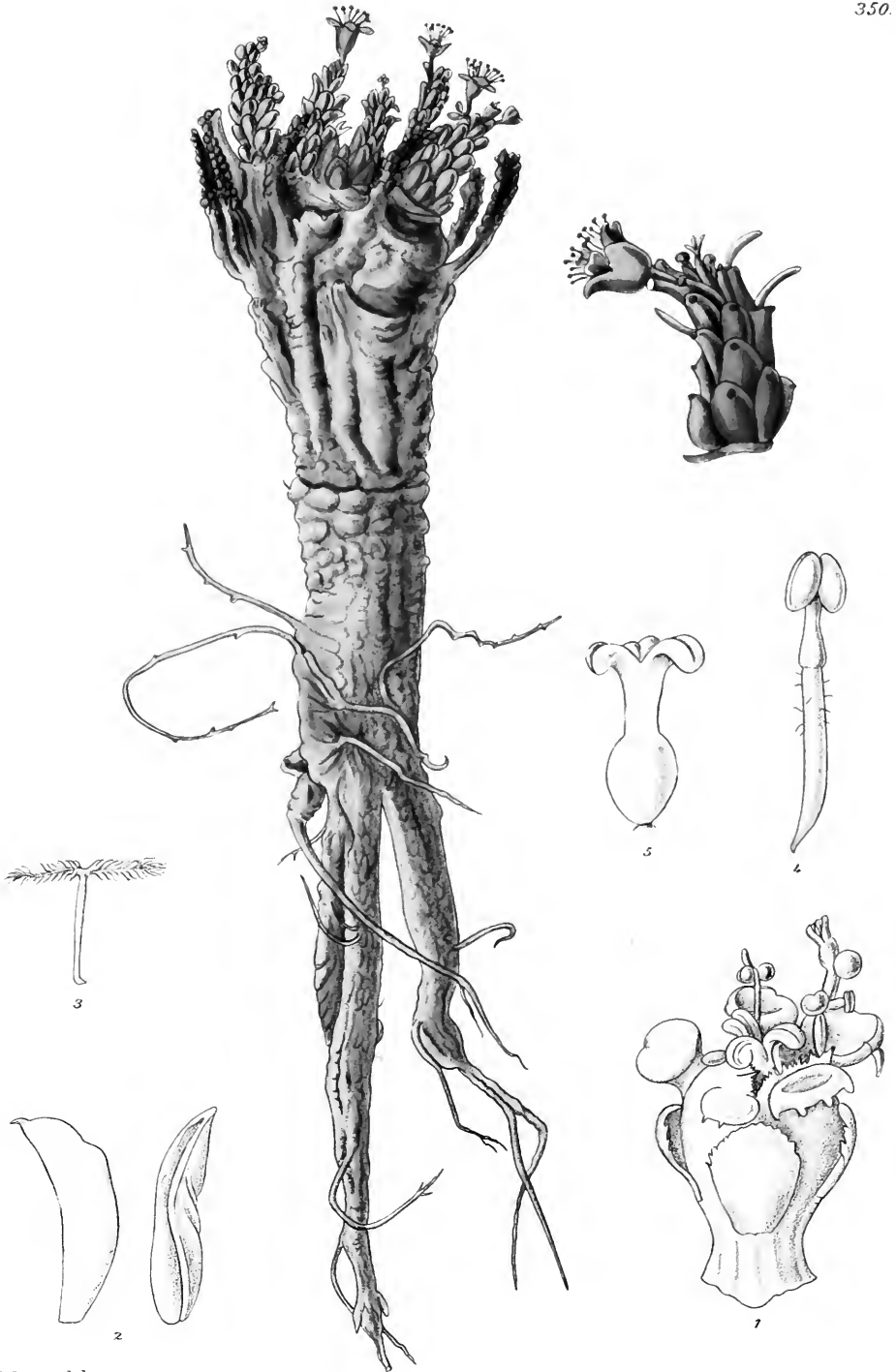
Ixia odorata is an extremely graceful plant; the flowers are Lemon Yellow (R.C.S. Pl. IV), and sweet-scented. We are indebted to Mrs. J. C. Letty for the specimens, which she collected on a farm near Darling in the Malmesbury district in September 1929.

DESCRIPTION:—*Corm* 1.1 cm. diam., covered with membranous tunics. *Stem* 50 to 69 cm. long, terete, 1.5 mm. in diam., glabrous, sparingly branched above. *Spikes* 2 to many-flowered. *Bracts* membranous, 5 mm. long; outer with several brown veins, cuspidate with 1 or 2 cusps; inner distinctly 2-keeled and with 2 cusps. *Perianth-tube* disarticulating above the ovary, 9.5 mm. long, cylindric below, becoming slightly widened in the uppermost part, glabrous; lobes 1.1 cm. long, 5 mm. broad, obovate-oblong, rounded at the apex. *Stamens* attached to the throat of the perianth; filaments 3.5 mm. long; anthers 5 mm. long. *Ovary* 2 mm.

long, subglobose; style 9·5 mm. long; lobes 7 mm. long.
(National Herbarium, Pretoria, No. 8255.)

PLATE 349.—Fig. 1, single flower; Fig. 2, inner bract; Fig. 3, outer bract; Fig. 4, flower bud with bracts at the base; Fig. 5, pistil; Fig. 6, young fruit.

F.P.S.A., 1929.



C. Letty del.

PLATE 350.

EUPHORBIA FUSCA.

South Africa.

EUPHORBIAEAE. Tribe EUPHORBIEAE.

EUPHORBIA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 258.

Euphorbia fusca, *Marloth in Trans. Roy. Soc. S. Afr.* ii. 38; *Fl. Cap.* vol. v. sect. ii. p. 319.

This *Euphorbia* was first found by Dr. R. Marloth near Britstown and Kimberley and described by him in 1912. It belongs to the section of the genus characterised by having the main body of the plant thicker than the branches and partly or quite buried in the ground, which is a characteristic habit of many of our native species. The accompanying Plate should be compared with that of *Euphorbia esculenta* (Plate 209), which belongs to the same section of the genus, but differs from *E. fusca* in not having the peduncles of the inflorescence persisting for more than one season. In this respect it agrees with *E. tuberculata* (see Plate 292). *E. fusca* or any of the species related to it never have the branches spiny.

The specimen was collected by Mr. C. A. Smith, B.Sc., on the farm "Bakbank" in the Fauresmith district in August 1927.

DESCRIPTION:—A dwarf succulent unarmed perennial. *Main stem* below the ground, elongated and up to 15 cm. long or globose and up to 15 cm. in diameter, thickly covered (sparsely in young specimens) with numerous radiating and ascending branches which just appear above the surface of the ground. *Branches* 2 to 5 cm. long, up to 1.2 cm. thick, subcylindric, tessellately tubercled, glabrous; the outermost row at length deciduous; tubercles rhomboid-hexagonal, prominent, with a small white leaf-scar. *Leaves* rudimentary, soon deciduous. *Peduncles* clustered at the apex of each

branch, up to 8 mm. long, persistent, glabrous, each peduncle bearing a few caducous bracts and a single involucre. *Upper pair* of bracts about 2 mm. long, spatulate-obovate, ciliate. *Involucre* about 5 mm. in diameter, shallowly cup-shaped, with 5 glands and 5 fringed and ciliate lobes; glands separate, somewhat unequal, about 1.5 mm. broad in the widest part, transversely elliptic oblong, with 2-5 subulate processes along their outer margin, glabrous. *Male flower* of a single stamen, hairy below the articulation. *Ovary* sessile, glabrous or covered with long spreading hairs; style stout, with stout spreading-recurved, minutely 2-lobed tips. (National Herbarium, Pretoria, No. 8256.)

PLATE 350.—Fig. 1, an involucre; Fig. 2, leaves; Fig. 3, appendages; Fig. 4, male flower (a single stamen); Fig. 5, female flower (a single pistil).
F.P.S.A., 1929.



C. Letty del.

TRICHODESMA PHYSALOIDES.

Transvaal.

BORAGINACEAE. Tribe HELIOTROPIEAE.

TRICHODESMA, *R.Br.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 845.*Trichodesma physaloides*, *A. DC. in DC. Prodr.* vol. x. p. 173; *Fl. Cap.* vol. iv. sect. ii. p. 11.

The genus *Trichodesma* was described by Robert Brown in 1810 and based on a species found in Australia. It is a small genus of ten species found in the tropics and subtropics of Asia, Africa and Australia. Three species are recorded from South Africa, and are found in the Transvaal, Orange Free State, Namaqualand, and from the Ceres and Calvinia districts of the Cape Province. The genus is absent from Natal.

Trichodesma physaloides is one of the early spring plants in the neighbourhood of Pretoria and is quite a feature in the veld. The large inflorescence, with its pendulous bell-shaped flowers, makes the plant particularly handsome, but the flowers rapidly turn brown if handled. The leaves become fully developed after the flowers fade. The ovary in the species is rather uncommon, as it is flat and disc-like with the ovules showing above its surface and covered with a thin transparent skin, so that unless carefully examined the ovules might be assumed to be naked.

The specimen was collected by Miss C. Letty at Brooklyn, Pretoria, in September 1929.

DESCRIPTION:—A herbaceous plant up to 0.6 m. high from a perennial rootstock. *Stems* several, reddish in colour, erect, glabrous. *Leaves* usually opposite, 4 cm. long, ovate-lanceolate, covered on both surfaces with small white disc-like scales. *Inflorescence* a terminal panicle. *Pedicels* pendulous, reddish in colour, 3 cm. long. *Calyx* somewhat inflated, dark purplish-pink in colour, 5-lobed; tube 5-angled; lobes slightly shorter than the tube, acute. *Corolla* pure white,

turning brown, 2 cm. long, shortly and broadly 5-lobed, with 5 small 2-lobed pads in the throat; lobes with a very short acumen at the apex. *Stamens* 5, opposite the pads and inserted near the base of the corolla-tube; filaments very short; anthers 2-thecae, with a long terminal awn, long-villous on the back. *Ovary* flat on the disc, usually 4-lobed, rarely 6-lobed, with a large ovule in each chamber; style subulate, 1.5 cm. long; stigma terminal. (National Herbarium, Pretoria, No. 8258.)

PLATE 351.—Fig. 1, corolla laid open; Fig. 2, pistil showing the ovule near the surface of the ovary; Fig. 3, longitudinal section of the pistil.

F.P.S.A., 1929.



C. Letty del.

LANDOLPHIA CAPENSIS.

Cape, Transvaal.

APOCYNACEAE. Tribe CARISSEAE.

LANDOLPHIA, *Beauv. ; Benth. et Hook. f. Gen. Plant.* vol. ii. p. 692.

Landolphia capensis, *Oliv. in Hook. Ic. Pl.* t. 1228; *Fl. Cap.* vol. iv. sect. i. p. 495.

The genus *Landolphia* is represented by about fifty species found in Africa and the Mascarene Islands; four of these are recorded from South Africa, extending from Delagoa Bay into Zululand and Natal, and from the Transvaal into the Griqualand West district. The species vary in habit, some being large lianes which climb by means of hooked tendrils; all contain a latex and several species are exploited as a source of rubber—the so-called African rubber.

Landolphia capensis, the species figured here, is common in the neighbourhood of Pretoria and extends westwards through the Rustenburg district to Marico. It has also been collected in the Zoutpansberg in the northern Transvaal. In the veld it is found as a scrambler over bushes and rocks and in its habit very much resembles *Cryptolepis oblongifolia*, a member of the family *Asclepiadaceae*, with which it is usually associated. The white flowers are extremely fragrant and appear during the month of September, the fruits ripening about the end of December. The local name for the plant is the *wilde appelkoos* (wild apricot) or *wilde perske* (wild peach), but the former name is more appropriate, as the yellow fruit certainly resembles an apricot more than it does a peach. We are indebted to Mr. A. O. D. Mogg, M.A., for the specimens which he collected on Meintjies Kop, Pretoria, in September 1928.

DESCRIPTION:—A scrambler over rocks and bushes. *Branches* minutely pubescent, covered with a thin waxy skin which eventually peels off. *Leaves* opposite, petioled, leathery;

petiole 1 cm. long, subterete, glabrous; lamina 4·2 cm. long, 3·2 cm. broad, elliptic, obtuse, entire, with a distinct midrib and lateral nerves almost at right angles to the midrib, darker green above, glabrous. *Inflorescence* a paniced cyme at the end of the branches. *Flowers* shortly stalked, very fragrant. *Calyx* 6 mm. long, rusty-hirsute, lobed almost to the base; lobes oblong, obtuse. *Corolla-tube* 1·4 cm. long, cylindric, pubescent without, pilose within; lobes 2 cm. long, 5 mm. broad, oblong, obtuse, slightly narrowing to the base, ciliate. *Stamens* attached near the base of the corolla-tube; filaments 1·5 mm. long, with a few hairs; anthers 1·75 mm. long, lanceolate, subacuminate, acute. *Ovary* 1·5 mm. long, half-superior, densely villous on the upper half; style red, 1·5 mm. long, terete, glabrous; *stigma* green, fleshy, 1·5 mm. long, globose below, divided into 2 lobes above. (National Herbarium, Pretoria, No. 8260.)

PLATE 352.—Fig. 1, median longitudinal section of flower; Fig. 2, calyx; Fig. 3, bract; Fig. 4, fruit opened.
F.P.S.A., 1929.



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C. Letty del.

PLATE 353.

EHRETIA HOTTENTOTICA.

Cape, Transvaal, Natal.

BORAGINACEAE. Tribe EHRETIACEAE.

EHRETIA, *Linn ; Benth. et Hook. f. Gen. Plant.* vol. 2, p. 840.

Ehretia hollentotica, *Burch. Trav.* ii. 147; *Fl. Cap.* vol. iv. sect. ii. p 5.

The genus *Ehretia* is represented in the hotter parts of both hemispheres by over fifty species, but in South Africa only two species are found. *Ehretia hottentotica*, figured on the accompanying Plate, is widely spread in South Africa, but is absent from the south-western districts of the Cape Province. The second species, *E. amoena* Klotz., has only been recorded from the Barberton district of the Transvaal.

In the neighbourhood of Pretoria *Ehretia hottentotica* usually forms one of the components of the bush groups. It is one of the first shrubs to flower in spring, and in its habitat is conspicuous owing to the dense mass of mauve flowers with which it is covered.

The plant is known as *stamper-wood*, and the wood being tough and flexible was formerly used by the natives for making assegai handles. The ripe drupe is said to be edible.

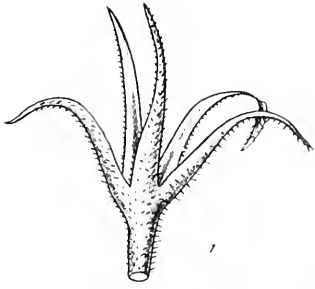
The specimen figured was collected by Miss C. Letty in October 1929 on a vacant erf near the Union Buildings, Pretoria.

DESCRIPTION:—A shrub with many divaricate whitish branches. *Leaves* on short branchlets, 1 to 2·5 cm. long, 0·5 to 1 cm. broad, obovate, glabrous or the young leaves slightly puberulous and ciliate. *Inflorescence* a corymbose cyme about 3 cm. long. *Peduncles* and *pedicels* puberulous. *Calyx* usually 5-lobed, occasionally 6-lobed, puberulous; lobes deltoid, ciliate. *Corolla-tube* 5 mm. long, glabrous; lobes usually 5, occasionally 6, 4 mm. long, oblong, obtuse. *Stamens* 5, occasionally 6, inserted in the corolla-throat and alternating with the corolla-lobes; filaments 5 mm. long;

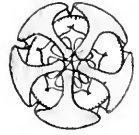
anthers versatile, 1.5 mm. long. *Ovary* 4-chambered; style 5 mm. long, bifid. *Fruit* globose, about 5 mm. in diam. (National Herbarium, Pretoria, No. 8257.)

PLATE 353.—Fig. 1, a single flower; Fig. 2, a corolla from a 6-merous flower laid open; Fig. 3, pistil.

F.P.S.A., 1929.



3



2



BRACHYSTELMA BARBERIAE.

Cape, Transvaal.

ASCLEPIADACEAE. Tribe CEROPEGIEAE.

BRACHYSTELMA, *R.Br.*; *Benth. et Hook. f. Gen. Plant.* vol. ii. p. 781.

Brachystelma Barberiae, *Harv. ex Hook. fil. in Bot. Mag.* t. 5607; *Fl. Cap.* vol. iv. sect. i. p. 864.

The accompanying Plate of *Brachystelma Barberiae* should be compared with Plates Nos. 39, 44, 140, 143 and 191, illustrating various species of the genus *Ceropegia*. The two genera differ in the relative length of the corolla-tube when compared with its diameter; in the former genus the corolla-tube is not twice as long as its diameter, while in the latter it is two to several times as long as its diameter. *Brachystelma* was first described by Robert Brown in the *Botanical Magazine* (t. 2343), and probably from a plant brought from the Cape by Bowie in 1823. The genus contains about sixty species, of which twenty-nine are represented in South Africa, the remainder being found in tropical Africa and India. *Brachystelma Barberiae* was named by Harvey, but he did not publish his description. When Mrs. Barber of "The Highlands," Grahamstown, sent a very fine coloured drawing of the plant to Sir Joseph Hooker it was reproduced under Harvey's name in the *Botanical Magazine* for the year 1866. In the neighbourhood of Pretoria the species is occasionally found in flower during the months of September and November.

We are indebted to Mr. L. R. Vogts for the specimen, which he collected at Waterkloof, near Pretoria.

DESCRIPTION:—An acaulescent plant with a large flattened tuber. *Stems* 6·5 to 9 cm. high, pubescent. *Leaves* 2·5 to 10 cm. long, 0·8 to 2·5 cm. broad, oblong or oblanceolate, acute, attenuated at the base, pubescent. *Inflorescence* an umbel, 7·5 to 10 cm. in diameter. *Pedicels* up to 2·2 cm. long, pubescent. *Sepals* 6 to 9 mm. long, 0·5 to 2 mm. broad,

tapering to an acute apex, pubescent. *Corolla* with the lobes connate at their tips forming a cage-like structure, 2·5 to 3·8 cm. long, pubescent beneath; tube campanulate, glabrous within; lobes 2 to 3·8 cm. long, 5 to 6 mm. broad, ovate at the base, thence contracted into a long linear portion. *Outer corona* cup-like, with 5 truncate segments adnate to the inner corona; inner corona-lobes linear, inflexed on the backs of the anthers. (National Herbarium, Pretoria, No. 8259.)

PLATE 354.—Fig. 1, calyx; Fig. 2, corona viewed from above; Fig. 3, an outer corona-lobe.

F.P.S.A., 1929.



C. Letty del.

PLATE 355.

NERINE SARNIENSIS.

Cape.

AMARYLLIDACEAE. Tribe AMARYLLEAE.

NERINE, *Herb. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 728.

Nerine sarniensis, *Herb. App.* 19; *Fl. Cap.* vol. vi. p. 209.

In the letterpress accompanying Plate 132 we made reference to this species of *Nerine*, but only recently had an opportunity of obtaining fresh material for figuring. *Nerine sarniensis* was first illustrated in the *Botanical Magazine* (t. 294) in the year 1795. In the account therein it is stated that the bulbs originally came from Japan, and the foundering on the island of Guernsey of a ship returning from that island is described, and it was assumed that the bulbs which were washed ashore and eventually became naturalised came from Japan. As the genus *Nerine* is endemic to South Africa there can be no doubt that the bulbs were a consignment from the Cape. There is also a record that the plant was successfully raised in the garden of Johannes Morinus at Paris in 1634, and was cultivated in England in 1659.

At the Cape *Nerine sarniensis* occurs on Table Mountain, where it flowers soon after the first winter rains, and is certainly the most handsome and showy of all the flowers sought after by mountaineers. A pure white sport has been found on Table Mountain.

The specimen figured was grown by Dr. I. B. Pole Evans, C.M.G., at Irene, near Pretoria, from bulbs collected at Hermanus, C. P.

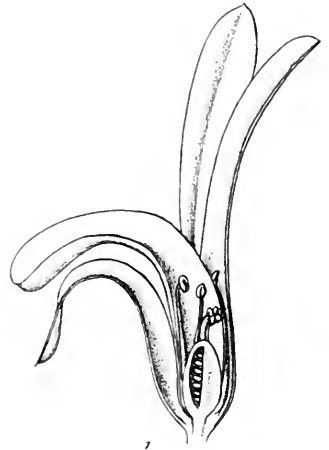
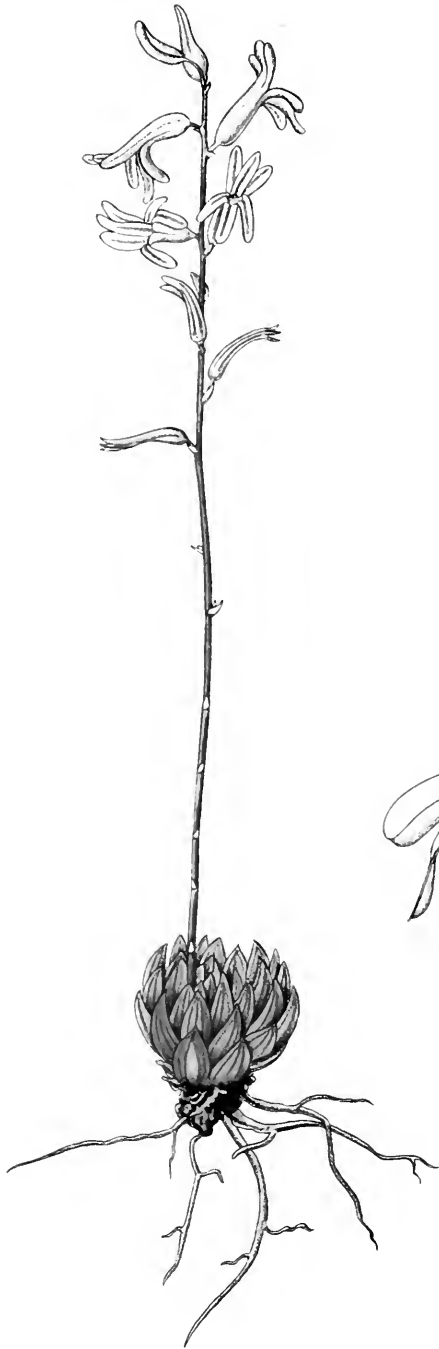
DESCRIPTION:—*Bulb* globose, about 3 cm. in diam. *Leaves* appearing after the flowers, few to a bulb, 15 cm. long, 1.2 cm. broad, strap-shaped, obtuse, glabrous. *Peduncle* 25 cm. long, rather compressed, smooth. *Umbel* 7-20-flowered. *Spathe-valves* 2, crimson, ovate-lanceolate. *Pedicels* 1 to 3 cm. long, of different lengths in the same umbel,

terete, glabrous. *Perianth* lobed almost to the base; segments 3.5 cm. long, at length reflexed, oblanceolate, cuneate at the base into a short claw, crisped on the margin. *Stamens* erect; filaments scarlet, slightly longer than the perianth-segments; anthers 3 mm. long, versatile. *Ovary* globose, 2 to 3 mm. in diameter. (National Herbarium, Pretoria, No. 8184.)

PLATE 355.—Fig. 1, median longitudinal section of a flower.
F.P.S.A., 1929.



2



1

PLATE 356.

HAWORTHIA CYMBIFORMIS var. PLANIFOLIA.

Cape.

LILIACEAE. Tribe ALOINEAE.

HAWORTHIA, *Dunal*; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 777.

Haworthia cymbiformis, *Haw. Syn.* 93, var. **planifolia**; *Fl. Cap.*
vol. vi. p. 347.

We have previously figured species of the genus *Haworthia* and have given some details of the genus. The species illustrated here belongs to a different section of the genus from those illustrated on previous plates. It was introduced into cultivation in the year 1795 by Francis Masson, who collected largely in South Africa, and in the *Flora Capensis* is recorded from the Somerset East district. The *Botanical Magazine* for the year 1805 (t. 802) contains a figure of the species under the name *Aloe cymbiformis*, and at that time the plant was fairly common in cultivation. As will be seen from our illustration, it is an extremely dainty little plant, and its small size makes it suitable for a miniature rockery which can be kept under shelter. Mr. R. A. Dyer, M.Sc., of Grahamstown, collected the specimens from which our Plate was prepared.

DESCRIPTION:—An acaulescent plant with a rosette of leaves 3·5 cm. in diameter. *Leaves* succulent, 1·8 cm. long, 8 mm. broad, oblong, becoming triangular above, acute, flat on the face, convex on the back, pale green with darker green markings, translucent in the upper portion, smooth, glabrous. *Scape* 16 cm. long, 1·25 mm. in diam., distantly bearing small white scarious bracts. *Floral bracts* 3 mm. long, ovate. *Pedicel* 2 mm. long, terete. *Perianth* 1·6 cm. long; segments white with a light brown keel; lobes oblong, obtuse. *Stamens* included. *Style* obtusely 3-lobed. (*Dyer*, No. 2082, National Herbarium, Pretoria.)

PLATE 356.—Fig. 1 median longitudinal section of flower; Fig. 2, single leaf.

F.P.S.A., 1929.



G. Letty del.

BABIANA OBLIQUA.

Cape.

IRIDACEAE. Tribe IXIEAE.

BABIANA, Ker. ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 706.

Babiana obliqua, *Phillips*, sp. nov. Cormus 2 cm. diametro, ovoideus, foliorum basibus reticulatis obtectus. Scapus 16 cm. longus, molliter pilosus. Folia circiter 3, oblique lanceolata, 7-18 cm. longa; petioli 3.5-8 cm. longi, parce pilosi vel fere glabri; lamina acuta, subplicata, parce pilosa, ciliata, basi valde inaequalia. Inflorescentia 4-flora; bracteae 4 cm. longae, 9 mm. latae, lanceolatae, subacutae, parce pilosae, ciliatae; bracteolae 2. Perianthii tubus 2 cm. longus, infra cylindricus, superne campanulatus, lobis 5 cm. longis 9 mm. latis marginibus undulatis leviter inaequalibus. Ovarium 4.5 mm. longum, glabrum; stylus 3.5 cm. longus, stigmatibus spatulatis marginibus glandulosus.

This is the first time we have the pleasure of figuring a species of this typical Cape genus. Like many of the other bulbous Monocotyledons described in these pages, species of *Babiana* were known in cultivation soon after the Dutch settled at the Cape. The genus *Babiana*, in common with the genera *Sparaxis*, *Tritonia*, *Gladiolus* and *Antholyza*, species of which we have figured, has simple style-branches and unilateral stamens, but differs from all of them in its plicate hairy leaves. The flowers of the majority of the species are blue and very frequently sweet-scented, and most of them have deep-seated fibrous corms.

The species is apparently an undescribed one, not having been matched at Kew or named from any published description. At Kew there is only one specimen which seems to be the same; this was grown by MacOwan from a bulb collected in Namaqualand. We are indebted for the specimens to Mr. J. J. van Nouhuys, who collected corms at Lambert's Bay and flowered them in Pretoria.

DESCRIPTION:—*Corm* 2 cm. in diam. at the base, ovoid, covered with reticulate fibres from the old leaf-bases. *Scape*

16 cm. long, softly pilose. *Produced leaves* 3, 7 to 18 cm. long, consisting of a lanceolate blade and a flattened petiole; petiole 3·5 to 8 cm. long, sparsely pilose or almost glabrous; blade 4·5 to 9 cm. long, 1·3 to 2 cm. broad, lanceolate, acute, somewhat plicate, sparsely pilose, ciliate, in the lower portion only developed on one side of the midrib. *Spike* 6 cm. long, 4-flowered. *Bracts* 4 cm. long, 9 mm. broad, lanceolate, subacute, scantily pilose, ciliate; bracteoles 2, similar to the bracts but narrower. *Perianth-tube* 2 cm. long, cylindric below, campanulate above; lobes 5 cm. long, 9 mm. broad, undulate; the 3 lower somewhat narrower than the 3 upper. *Filaments* shorter than the style. *Ovary* 4·5 mm. long, ellipsoid, glabrous; style 3·5 cm. long; stigmas spathulate, glandular on the edges. (National Herbarium, Pretoria, No. 8180.)

PLATE 357.—Fig. 1, median longitudinal of a flower; Fig. 2, lower portion of flower showing ovary and perianth-tube; Fig. 3, stigmas.
F.P.S.A., 1929.



C. Letty del.

PLATE 358.

ALOE DAVYANA.

Transvaal.

LILIACEAE. Tribe ALOINEAE.

ALOE, *Linn.* ; *Benth. et Hook. f. Gen. Plant.* vol. iii. p. 776.

Aloe Davyana, *Schönl. in Rec. Albany Mus.* vol. 1. p. 288.

Dr. S. Schönland of Grahamstown described this *Aloe* in 1905 from a specimen sent him by Dr. Burt Davy, and which had been cultivated at Grahamstown. Dr. Schönland notes that after some years of cultivation in rather rich soil the shape of the leaves becomes considerably altered by gaining in length but not in breadth. In the natural state the leaves are usually not much longer than broad. *Aloe Davyana* is common in the Pretoria district, and with *Aloe Peglerae* (see Plate 149) are the two species found on the hills in the neighbourhood of Pretoria. We are indebted to Miss I. C. Verdoorn for the specimen figured, which she collected at Waterkloof, near Pretoria, in June 1929.

DESCRIPTION:—An acaulescent plant. *Leaves* 12 to 14 in a dense rosette, about 9 cm. long, 9 cm. broad, ovate, acute, slightly concave on the upper surface, convex beneath, with numerous dark green stripes, with prickles on the margins; in old leaves the tip withered and reflexed. *Inflorescence* a simple or branched raceme about 0.5 m. high; peduncle subterete from the base, bearing a few bracts. *Floral-bracts* about 15 mm. long, becoming smaller above, clasping the lower part of the pedicel, ovate-cuspidate, glabrous. *Perianth* about 3.2 cm. long, slightly constricted above the base. *Stamens* and *style* eventually slightly exserted. (National Herbarium, Pretoria, No. 8177.)

PLATE 358.—Fig. 1, plant much reduced; Fig. 2, a single flower; Fig. 3, median longitudinal section of a flower; Fig. 4, cross-section of ovary.
F.P.S.A., 1929.



C. Letty del.

ANTHOLYZA LUCIDOR.

Cape Province.

IRIDACEAE. Tribe IXIEAE.

ANTHOLYZA, *Linn. ; Benth. et Hook. f. Gen. Plant.* vol. iii. p. 710.**Antholyza**, *Linn. fl. Suppl.* 96; *Fl. Cap.* vol. vi. p. 170.

We previously figured a species of the genus *Antholyza* on Plate 309, and the accompanying illustration should be compared with this, as the latter represents a species of a different subgenus. *Antholyza aethiopica* is a representative of the subgenus *Euantholyza*, which is characterised by having the upper perianth-lobe elongated and standing forward, while *A. lucidor*, representing the subgenus *Homoglossum*, has the perianth-lobes almost equal.

Antholyza lucidor is quite a common plant on the slopes of Table Mountain above Camp's Bay, and is also found in other districts of the south-western Cape Province. Though it was gathered by the old collectors, and must have been seen by men like Masson and Niven, who collected in the neighbourhood of Table Mountain, it appears strange that no figure of the species is illustrated in the old botanical publications, more especially as it is quite a striking plant. We are indebted to Dr. I. B. Pole Evans, C.M.G., for the specimens, which he collected at Hermanus and cultivated at Irene, near Pretoria.

DESCRIPTION:—*Scape* simple, terete, about 45 cm. long. *Cauline leaves* about 5, 6 to 10 cm. apart, 8 to 20 cm. long, with long subulate points, sheathing at the base. *Spike* about 8 cm. long, dense. *Spathe-valves* 0.5 to 1.5 cm. long, oblong-naviculate, with the inner about twice as long as the outer. *Perianth-tube* curved, dilated below the middle; lobes about 1 cm. long, oblong. *Stamens* inserted at the dilated portion of the perianth-tube, unilateral, reaching to the top of the upper perianth-lobe; anthers 0.5 cm. long, linear, versatile. *Style* about as long as the stamens, with 3 short lobes; perianth

and stamens at length reflexing, leaving the style exposed.
(National Herbarium, Pretoria, No. 8268.)

PLATE 359.—Fig. 1, median longitudinal section of flower.
F.P.S.A., 1929.



C. Letty del.

PLATE 360.

GASTERIA PULCHRA.

Cape Province.

LILIACEAE. Tribe ALOINEAE.

GASTERIA, *Duval in Benth. et Hook. f. Gen. Plant.* vol. iii. p. 775.

Gasteria pulchra, *Haw. Syn.* 86; *Fl. Cap.* vol. vi. p. 296.

This extremely graceful plant, as far as we know, is not at all common, and the specimen from which our Plate was prepared is the first we have seen. Like many other species of the genus it was fairly well known in European collections over a century ago. It was figured in the *Botanical Magazine* (t. 765) and by Jacquin in 1804, and according to the former publication was found by Dr. Carl Thunberg on the Outeniqua Mountains. The two figures quoted above as well as the figure given by Salm-Dyck (*Monogr. Gen. Aloes*, Section 29, fig. 2) show an elongated stem, but this is probably due to the fact that these illustrations were made from cultivated plants. We are indebted to Miss L. Britten and Mr. R. A. Dyer, M.Sc., for the specimens, which they collected in the neighbourhood of Grahamstown, 20 miles along the Peddie Road.

DESCRIPTION:—An acaulescent plant. *Leaves* in a basal rosette, 2 to 6 cm. long, up to 1.5 cm. broad at the base, somewhat flattened above and rounded beneath or almost subterete but lanceolate-linear in general outline, very pungent, clasping at the base, glabrous. *Scape* 32 cm. long; peduncle terete, with a few membranous bracts; raceme 25 cm. long. *Floral bracts* 5 mm. long, membranous, ovate-lanceolate, acuminate. *Pedicels* 1 cm. long, at first horizontal, then reflexed, becoming almost erect in old flowers. *Perianth* 1.5 cm. long, globose in the lower half, becoming almost beaked in the upper half; segments obtuse. *Filaments* attached to the base of the perianth; anthers oblong. *Ovary*

5 mm. long, somewhat 3-lobed; style 5 mm. long, terete; stigma minute. (National Herbarium, Pretoria, No. 8173.)

PLATE 360.—Fig. 1, a single flower; Fig. 2, median longitudinal section of a flower; Fig. 3, a withered flower which becomes almost erect; Fig. 4, pistil; Fig. 5, cross-section of leaf.

F.P.S.A., 1929.

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